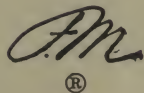


GUNSMITH SUPPLIES

IMPORTED
AND
DOMESTIC
TOOLS



Catalog – 1952

FRANK MITTERMEIER

3577 E. TREMONT AVENUE

NEW YORK 61, N. Y.

German Carving Tools

The following illustrated tools are made by the world famous manufacturers "David Strassmann & Co.," who for over 100 years have specialized in the making of top grade woodworking chisels, gouges and carving tools.

Their Know-How, backed up by experienced workmen, and the use of the finest steel—hardened and deep tempered for life-long service—guarantees the best carving tools obtainable.

Tools listed on this page are the short or amateur type and are known under the trade-name "Dastra."

These tools are in- and outside highly polished and come supplied with attached round maple handles.



No. 101 Width 2 to 12 mm.....each \$1.35



No. 102 Width 2 to 12 mm.....each \$1.35



No. 104 Width 2 to 12 mm.....each \$1.75



No. 105 Width 2 to 10 mm.....each \$1.75



No. 106 Width 2 to 10 mm.....each \$2.00



No. 107 Width 1 mm.....each \$1.75



No. 103 Width 2 to 10 mm.....each \$1.65



No. 103S Right or left, width 2 to 10 mm.ea. \$1.65



No. 105 1/2 Width 2 to 8 mm.....each \$1.95



No. 105 1/4 Width 2 to 8 mm.....each \$2.00



No. 106 1/2 Width 2 to 8 mm.....each \$2.15



No. 106 1/4 Width 2 to 8 mm.....each \$2.35



Size	Round Handle Diam.	Ferrule	Price
No. 1	15/16"	1/2"	@ \$.18
No. 2	1"	9/16"	@ \$.20
No. 3	1-1/16"	5/8"	@ \$.22
No. 4	1-3/16"	3/4"	@ \$.26



Size	Octagon Handle Diam.	Ferrule	Price
No. 1	3/4"	1/2"	@ \$.23
No. 2	7/8"	5/8"	@ \$.25
No. 3	11/16"	3/4"	@ \$.30
No. 4	1-1/16"	7/8"	@ \$.35

Carving tools listed on this page are the long or professional carver's type. They are highly polished at the inside and are supplied without a handle.



Chisel

Widths	mm	2-10	12-14	16-18	20-22	25	30	35
No. 1	@	\$1.25	1.45	1.60	1.85	2.20	2.85	3.30
No. 1	Width 40 mm	@	\$3.75					



Skew Chisel

Widths	mm	2-10	12-14	16-18	20-22	25	30	35
No. 2	@	\$1.25	1.45	1.60	1.85	2.20	2.85	3.30



Straight Gouges Nos. 3, 4, 5, 6, 7, 8, 9, 10, 11

Widths	mm	2-10	12-14	16-18	20-22	25	30	35
No. 3-8	@	\$1.70	1.85	2.20	2.55	2.85	3.30	3.80
No. 9-11	@	\$1.85	2.05	2.55	2.95	3.65	4.90	6.30
No. 3-8	Width 40 mm	@	\$4.40					
No. 9-11	Width 40 mm	@	\$8.00					



Long Bend Gouges Nos. 12, 13, 14, 15, 16, 17, 18, 19, 20

Widths	mm	2-10	12-14	16-18	20-22	25	30	35
No. 12-17	@	\$1.85	2.05	2.55	2.85	3.30	3.90	4.40
No. 18-20	@	\$2.05	2.20	2.70	3.30	3.90	5.25	6.90



Spoon Chisel No. 21

Spoon Chisel No. 22 Right Skew, No. 23 Left Skew

Widths	mm	2-10	12-14	16-18	20-22	25	30	35
No. 21-23	@	\$1.70	1.85	2.20	2.85	3.30	3.80	



Spoon Gouges Nos. 24, 25, 26, 27, 28, 29, 30, 31, 32

Widths	mm	2-10	12-14	16-18	20-22	25	30	35
No. 24-29	@	\$1.85	2.05	2.35	2.85	3.30	4.90	6.30
No. 30-32	@	\$2.05	2.20	2.55	2.95	3.65	5.05	6.75



Back Bend Gouges Nos. 33, 34, 35, 36, 37, 38

Widths	mm	2-10	12-14	16-18	20-22	25	30	35
No. 33-38	@	\$1.85	2.05	2.35	2.85	3.30	4.90	6.30

They are known under the trade-name "Holzschraube."



M



Straight Parting (V) Tools

Widths	mm	2-10	12-14	16-18	20-22	25
No. 39, 41, 45	@	\$2.35	2.70	3.15	4.75	5.90



Long Bend Parting Tools

Widths	mm	2-10	12-14	16-18	20-22	25
No. 40, 42, 46	@	\$2.55	2.85	3.45	5.25	6.30



Spoon Parting Tools

Widths	mm	2-10	12-14	16-18	20-22
No. 43, 44	@	\$2.85	3.15	3.85	5.65



Fish Tail Chisel

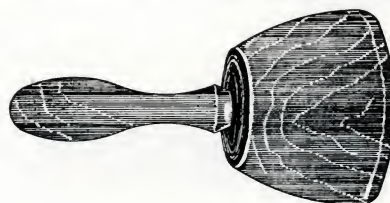
Widths	mm	2-10	12-16	18-20	25	30	35
No. 48	@	\$2.30	2.70	3.00	3.25	3.75	4.25



Fish Tail Gouges

Widths	mm	2-10	12-16	18-20	25	30	35
No. 48G	@	\$2.30	2.70	3.00	3.25	3.75	4.25

Available in 6 different sweeps, corresponding to Nos. 3, 4, 5, 6, 7 and 8 of Straight Gouges.



Carver's Mallet

Height 8"

Made in two weights.

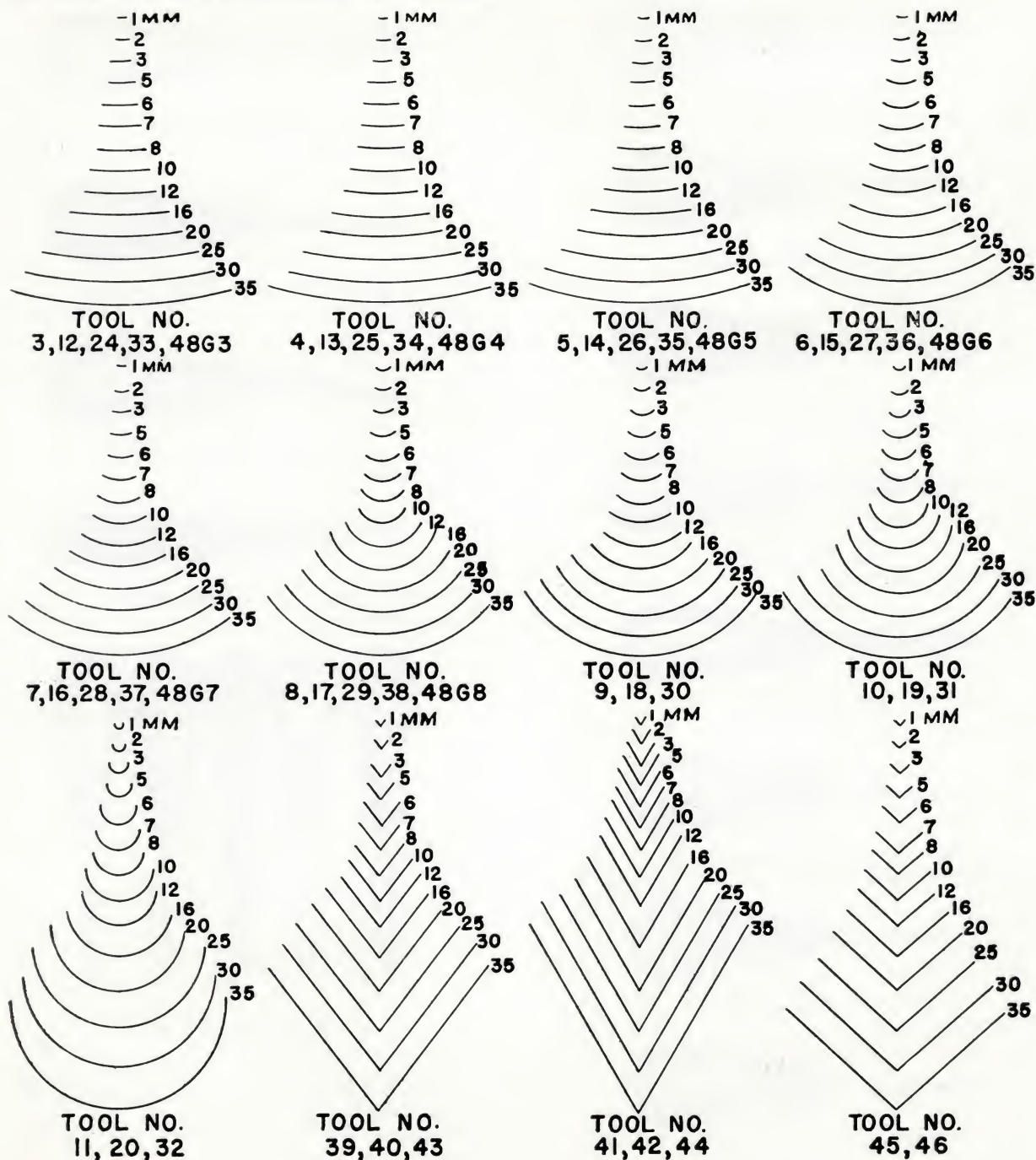
Hickory, 18 oz. @ \$2.75

Lignum Vitae, 24 oz. @ \$3.00

Carving Tool Chart

This chart shows the sizes and sweeps (form of cutting edge) of the professional carving tools. The number at the right of the drawings indicates the tool's width in mm—millimeter. The numbers

below the drawings are the tool numbers of the different types—straight, long bend, spoon or back bend—in which the above sweeps are obtainable.



Wood Block Cutting Tools

For fine detailed work in block cutting, be it on soft or hard wood or linoleum, top grade tools in a variety of shapes and widths are needed. Here are illustrated and listed the available shapes, sweeps and sizes of Block Cutting Tools.

Those are "Dastra" tools, world wide known for their top quality. The approx. overall length is 5½". They are ground sharp and only honing is required for keen edges.



No. 201 Chisel

Widths 2, 4 and 6 mm

each \$.95



No. 202 Skew Chisel

Widths 2, 4 and 6 mm

each \$.95



No. 203 Spoon Chisel

Widths 2 and 4 mm

each \$1.20



No. 204 Gouge

Widths 2, 4 and 6 mm

each \$1.20



No. 205 Gouge

Widths 3, 4 and 6 mm

each \$1.20



No. 206 Long Bend Gouge

Widths 4 and 6 mm

each \$1.25



No. 207 Spoon Gouge

Widths 4 and 6 mm

each \$1.25



No. 208 Groove Gouge

Widths 1 and 2 mm

each \$1.25



No. 209 V Tool

Widths 2, 3 and 5 mm

each \$1.35



No. 210 Long Bend V Tool

Widths 3 and 5 mm

each \$1.40



No. 211 Spoon V Tool

Widths 3 and 5 mm

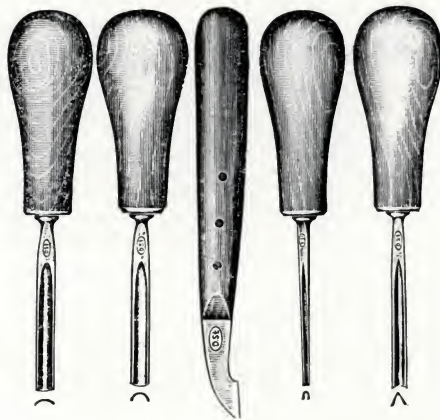
each \$1.40



No. 212 Contour Knife

Length 12° mm

each \$1.00



Block Cutting Set

For the beginner and art school student above illustrated set has been made up. The selected tools are the most used ones, the set consist of Contour Knife No. 212, Gouge No. 204 6 mm, Gouge No. 205 4 mm, Groove Gouge No. 208 1 mm, V Tool No. 209 3 mm
Supplied in an attractive carton Price \$6.25

Cabinet Maker Chisels and Gouges

The illustrated Fimer Chisel and Gouge, are made of a special steel to insure, by hard use of the tool, a lasting keen edge. They are highly polished and ground sharp. The cherry-wood handle is fitted with a blued steel ring and a 3 ply leather top.



Beveled Firmer Chisel No. 400

Width mm	4, 6, 8, 10	13	16	20	26	30
Price each	\$1.80	2.00	2.15	2.40	2.80	3.40



Firmer Gouge No. 404

Width mm	4, 6, 8, 10	13	16	20	26	30
Price each	\$2.25	2.40	2.75	3.10	3.40	3.85



Pattern Maker Gouge No. 406

Inside Gound

These gouges are available in following sweeps No. 4, 6 and 8 (see chart on page 3). Listed prices do not include handle.

Widths mm	2-10	12-14	16-18	20-22	25	30
Price each	\$1.90	2.05	2.45	2.80	3.15	3.65

Chip Carving and Bench Knives

Chip, Board and Whittler knives, are very useful in inletting of gunstocks, doing inlay work, pattern and model making. Made of first class steel, they are ground sharp and need only honing before use.



No. 108 each \$.85



No. 109 each \$.95



No. 111 each \$.90



No. 112 each \$1.05



No. 113 each \$.95



No. 114 each \$1.10



No. 115 each \$1.25



No. 116 each \$.80

Matting Tools

Of the many different designs in Matting tools manufactured, those illustrated are mostly used in gunstock decorating and in place of the conventional checkering of pistol-grips and forearms.



No. 53



No. 54



No. 55



No. 56



Nr. 57



58



59



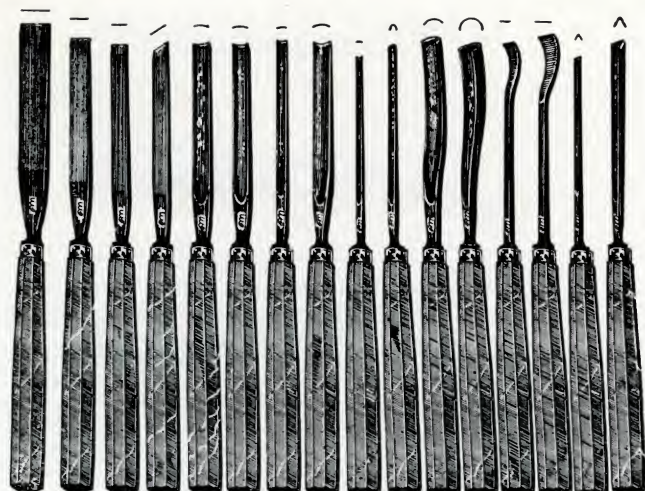
60



61

Prices

No. 53	each \$ 45
No. 54 to 61	each \$.90

No.
mm9
310
517
1219
1221
621
1041
339
6

Carving Tool Sets

Gunsmith's Set No. 1

This set of 16 tools represents the minimum of tools required for gunstocking, done in the average shop. It is a foundation to which tools are added as the special jobs require.

The tools are supplied with octagon handles, the tools are the long type and the actual cutting sizes and sweeps are shown below.

The price of the complete set is \$29.50.

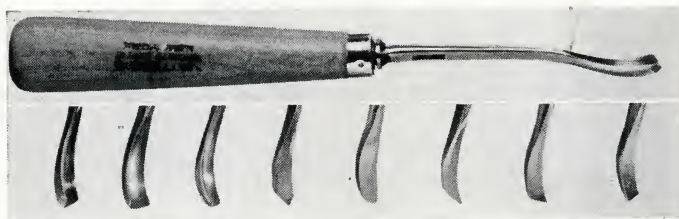
No. 1 mm 18	1 12	1 10	2 10
4 12	6 10	5 5	7 12
21 6	21 10	41 3	39 6

Gunsmith's Set No. 2 for Inletting and Bottoming

This set of 8 tools is needed in shops, having considerable gunstocking to do. The tools are all spoon type; this shape is better suited for bottoming work, than the straight or long bend ones.

The different shapes enable the gunsmith to do the most intricate inletting and bottoming work on shotguns and do it with considerable saving in time.

These are the short type tools and are supplied with round handles. The tools are ground sharp and require only honing for keen edges.



Price of the complete set is \$14.70.

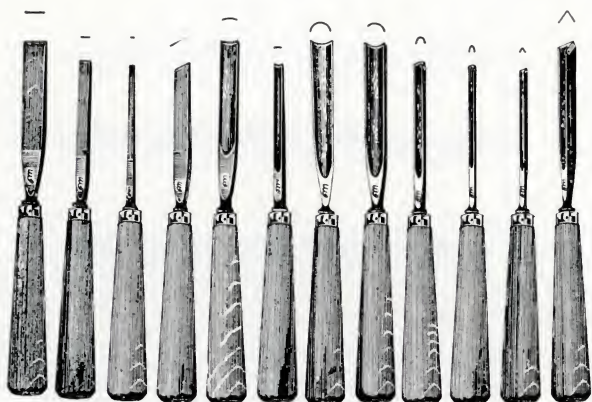
Amateur Sets

The tools for the following sets have been especially selected for the amateur and beginner. These are all straight chisels, gouges and parting tools, as they are shorter than the professional tools, they are for the beginner handier to work with. This selection is the core to which more tools can be added as one's ability progresses.

Ground sharp, only honing required for keen edges.

The number 4 set consists of 12 tools as illustrated, with the sizes and sweeps shown below. Price of the complete set is \$19.50.

The number 5 set consists of 6 tools, they are No. 101, 12mm; No. 102, 8mm; No. 104, 10mm; No. 105 3 mm, 10 mm; No. 106 3 mm. Price of this set is \$9.50.

No.
mm101
12101
6101
3102
8104
10104
5105
12105
10105
6105
3106
3106
10

Imported Precision Files, Rifflers and Rasps

The listed Files, Rifflers and Rasps were especially selected for their practical value to the gunsmith, tool and die-maker and all those who want top quality in their tools.

For rough and fine filing, a fast accurate file, having the proper cut is required, and with a full assortment of files a good mechanic is able to do all the filing necessary in making parts and repairing of firearms.



Hand File

Cut on flat sides and on one edge.

Length	Approx. Size	Cut	0	2	4
6"	25/32" x 11/64" each		\$.80	\$.85	\$.95
8"	29/32" x 3/16" each		1.00	1.10	1.30
10"	1" x 9/32" each		1.45	1.65	1.90
12"	1-3/16" x 5/16" each		1.80	2.00	2.30
14"	1-13/32" x 11/32" each		2.40	2.75	.....



Pillar Files

Cut on flat sides only.

Regular Pillar File

Length	Approx. Size	Cut	0	2	4
6"	1/2" x 11/64" each		\$.70	\$.75	\$.85
8"	19/32" x 13/64" each		.85	1.00	1.15
10"	23/32" x 15/64" each		1.20	1.40	1.60
12"	25/32" x 9/32" each		1.65	1.85	2.05

Narrow Pillar File

Length	Approx. Size	Cut	0	2
6"	1/4" x 3/32" each		\$.70	\$.75
8"	11/32" x 11/64" each		.85	1.00

Extra Narrow Pillar File

Length	Approx. Size	Cut	0	2	4
4"	5/32" x 3/32" each		\$.60	\$.70	
6"	13/64" x 1/8" each		.75	.85	



Square File

Cut on 3 sides.

Length	Approx. Size	Cut	0	2	4
4"	5/32" each		\$.60	\$.65	\$.70
6"	15/64" each		.80	.90	1.00
8"	5/16" each		1.00	1.20	1.35
10"	13/32" each		1.30	1.45	1.65



Knife File

Length	Approx. Size	Cut	0	2	4
6"	22/32" x 5/32" each		\$.90	\$ 1.15	\$ 1.30
8"	7/8 x 13/64" each		1.30	1.55	1.75



Three Square File

Length	Approx. Size	Cut	0	2	4
6"	3/8" each		\$.80	\$.90	\$ 1.05
8"	1/2" each		1.10	1.20	1.35
10"	5/8" each		1.45	1.65	1.75

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Crochet File

Cut on flat sides and 2 round edges.

Length	Approx. Size	Cut	0	2	4
4"	5/16" x 3/32" each		\$.75	\$.85	
6"	13/32" x 9/64" each		1.00	1.15	



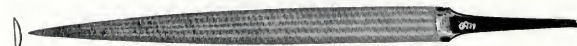
Pippin File

Length	Approx. Size	Cut	0	2
6"	25/64" x 9/64" each		\$ 1.00	\$ 1.20
8"	15/32" x 11/64" each		1.50	1.65



Crossing File

Length	Approx. Size	Cut	0	2
4"	15/32" x 11/64" each		\$.90	\$ 1.10
6"	5/8" x 13/64" each		1.20	1.30
8"	13/16" x 15/64" each		1.50	1.95



Half Round File

Length	Approx. Size	Cut	0	2	4
6"	5/8" x 13/64" each		\$.90	\$ 1.10	\$ 1.40
8"	13/16" x 15/64" each		1.45	1.55	1.70
10"	1" x 5/16" each		1.75	2.00	2.35
10"	1" x 5/16" Coarse	Cut 000	each	\$ 2.00	

Half Round Slim File

Length	Approx. Size	Cut	0	2	4
6"	1/2" x 5/32" each		\$ 1.00	\$ 1.10	\$ 1.35
8"	3/4" x 7/32" each		1.50	1.60	1.75



Round File

Length	Approx. Size	Cut	0	2	4
3"	3/32" each		\$.50	\$.55	\$.70
4"	5/32" each		.55	.60	.80
6"	15/64" each		.75	.85	.95
8"	5/16" each		1.00	1.15	1.25
10"	13/32" each		1.40	1.60	
10"	13/32" Coarse	Cut 000	each	\$ 1.30	



Parallel Round File

Length	Approx. Size	Cut	0	2	4
4"	3/32" each		\$.50	\$.65	
4"	1/8" each		.50	.65	
4"	5/32" each		.55	.70	
4"	3/16" each		.55	.70	

**Barrette File**

Cut on flat side only.

Length	Approx. Size	Cut	0	2	4
4"	1/2" x 1/8" each		\$.80	\$.85	\$.90
6"	23/32" x 5/32" each		1.10	1.20	1.35

**Cant File**

Cut on 3 sides.

Length	Approx. Size	Cut	0	2
4"	7/16" x 1/8"	each	\$.80	\$.85
6"	19/32" x 9/64"	each	1.10	1.20
8"	23/32" x 5/32"	each	1.60	1.70

**Warding File**

Parallel in thickness.

Length	Approx. Size	Cut	0	2
4"	S.G. 16, 18, 20	each	\$.60	\$.70
6"	S.G. 16, 18, 20	each	.75	.80
8"	S.G. 16, 18, 20	each	1.00	1.10

**Equalling File**

Parallel in width and thickness.

Length	Approx. Size	Cut	0	2
4"	S.G. 16, 18, 20	each	\$.60	\$.70
6"	S.G. 16, 18, 20	each	.75	.80

**Joint File**

Round or square edge, cut only on edges.

Cut 1, size 4" x 13/32" S.G. 18-20 Price @ \$.65

Warding, Equalling and Joint files are ordered by Stub's gauge (S.G.):

16 - .175"; 18 - .168"; 20 - .161".

**Pillar Checkering File**

No.	Lines per inch	Size	Price each
No. 00	22 lines	size 6" x 1/2"	\$1.70
No. 0	30 lines	size 6" x 1/2"	1.70
No. 1	40 lines	size 6" x 1/2"	1.80
No. 2	50 lines	size 6" x 1/2"	1.80

**Checkering File**

2 line file for checkering triggers, etc., where the regular pillar checkering file can't be used. Made in 2 sizes, for 16 and 18 lines per inch.

Price @ \$1.65

**Circular Cut File**

Utility flat, one side bastard, other smooth cut.

Size 10" x 1" x 7/32"

Price @ \$1.75

Size 12" x 1-3/16" x 3/16"

Price @ \$2.00

**Half Round—Circular Cut**

Second cut, size 10" x 1"

Price @ \$1.75

Second cut, size 12" x 1 1/8"

Price @ \$2.00

**Slotting File**

Cuts on 2 edges only. Special file for stock-inletting and slot filing.

Size 8" x 1/4"

Price @ \$1.25

**Slitting File**

Length	Approx. Size	Cut	2	4
4"	33/64" x 5/64" each		\$.80	\$1.00
6"	19/32" x 9/64" each		1.20	1.50

**Needle File**

A set of needle files takes care of all narrow filing jobs. Made in 10 shapes; square, three-square, warding, round, knife, half-round, crossing, barrette, equalling and slitting.

Length	Cut	0	2	4
4" over all	each	\$.40	\$.40	\$.40
5 1/2" over all	each	.50	.50	.50
6 1/4" over all	each	.60	.60	.60



Spring File

Cuts on 1 side only. These special files come in pairs—left and right—and are the most important files in making V springs and filing them to the proper thickness for the required hitting power. Also useful in filing slots and V clamps on telescope mounts.

Price per file \$.85 Pair—right and left \$1.60



Screw Head File

No. 4 thin, size 3" x 25/64" Price @ \$.85
No. 8 extra thin, size 3" x 25/64" Price @ \$.95



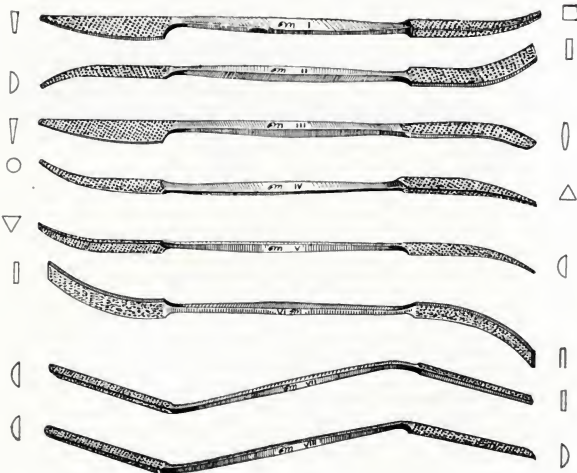
Cabinet Rasp

Length	Approx. Size	Cut	Smooth	Dead Smooth
8"	1-3/16" x 13/64"	each	\$1.60	\$1.80
10"	1-5/16" x 7/32"	each	1.80	2.15
12"	1-7/16" x 7/32"	each	.....	3.00
12"	1-7/16" x 7/32"	Cut Bastard	each	\$2.00



Round Rasp

Length	Approx. Size	Cut	Smooth	Dead Smooth
6"	5/32"	each	\$1.10	\$1.20
8"	1/4"	each	1.45	1.60
10"	3/8"	each	1.60	2.10
12"	1/2"	each	1.75	2.45



Rasp Riffler

Cut Smooth, 7" long, 8 riflars, with different rasp shapes. Those shapes are the most practical ones for stock, model, pattern and cabinet work. Price each riflars \$1.75 Set of 8 riflars \$13.20



Die Makers Rifflers

Cut 0, approximate length 6 7/8" Price @ \$1.80



Engraving Chisels

For steel engraving, where the regular gravers are of little value, as most of the engraving has to be done with chisel and hammer, the illustrated 12 chisel-shapes of the set are those which are mostly needed and with which an experienced engraver can execute the most artistic work, be it scroll, high relief or inlay of silver and gold. Besides for artistic work, these chisels are useful in die-sinking, where most of the intricate work has to be done with the chisel, and where a complete set of chisels will eliminate the time-consuming re-grinding to different shapes.

Made of first class tool steel, properly hardened and tempered. Length 5".

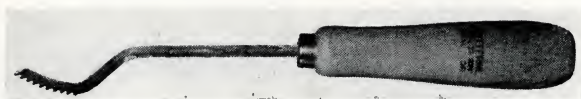
Price of the complete set (12 chisels) \$12.00
Price of individual chisels each \$1.10



Gravers

In silver or gold engraving, inlay-work, for final touch-ups in die-sinking, foto engraving, etc., the listed gravers are of great importance. There are 9 shapes illustrated and their different thicknesses listed. Price each \$.60

 Flat 00, 0, 2, 4, 5, 6	 Knife 1, 2, 3, 4, 5, 6, 7	 Bevel 1, 2, 3, 4, 5, 6, 7
 Onglette 0, 1, 2, 3, 4, 5, 6	 Round 3, 4, 5, 6, 7, 8	 Oval 2, 3, 4, 5, 6, 7
 Chisel 00, 0, 1, 2	 Square 4, 6, 8, 10, 12	 Lozenge 4, 6, 8, 10, 12



M



Checkering Tools

The above illustration shows the single line tool, 2 and 3 groove spacers and the border tool.

The 2 groove spacers are made in 12, 14, 16, 18, 20, 22 and 24 lines per inch. The 3 groove tools are made in 16, 18 and 20 lines per inch.

What size of checkering should be used? depends on the personal preference, generally 12, 14, 16, 18 and 20 lines per inch checkering is being done on rifles and pistol stocks; 20, 22 and 24 on shotgun stocks. 12 and 14 line checkering is mostly done in Canada and Alaska, where the cold weather forces the hunter to wear gloves, a wider or rougher checkering gives a better grip.

	Price each
Checkering tool 2 or 3 groove	\$1.25
Single line tool for cleaning and deepening	1.25
Border tool	1.25



Checkering Riffler

For recutting old checkering and for use as single line cutter on soft wood. Price each \$1.25



Border Riffler

For border work and old type—round bottom—checkering. Price each \$1.25

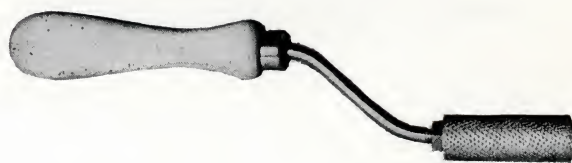


Needle Rasp

Cut Smooth, 6 shapes; knife, half round, flat, round, three square, square.

Very useful in inletting, model and pattern work.

Price each rasp \$.60 Set of 6 rasps \$3.50



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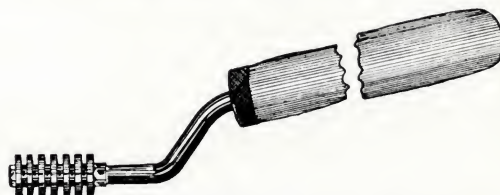
Barrel Inletting Rasp

Special designed for inletting of rifle and shotgun stocks. Rasp has two different cuts, coarse: for roughing out, and fine for smooth final work. Just a half turn of the rasp from one cut to another. Since 1937 when I designed and offered it, it has been the favorite of gunstockers.

Rasp is 2" long and is available in 1/2" and 3/4" Ø.

Price per rasp as illustrated \$2.40

Set of 2 rasps with one handle 4.50



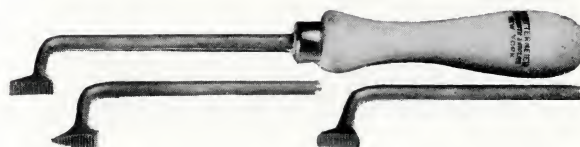
Schmidt's Barrel Inletting Tool

A unique designed tool, consisting of several hardened and ground cutters, spaced apart and adjustable for heavy cuts and fine shaves.

The cutters are made in 3 diameters 5/8", 3/4" and 7/8".

Tool with 2 sets (5/8" and 7/8") of cutters \$3.50

Tool with 3 sets of cutters 5.00



M

Bottoming Files

A new type of bottoming tool, having special milled file teeth for better cutting. With this new feature even a novice is able to file an even bottom, so essential for good fitting and frictionless operation of inletted shotgun locks and rifle actions. This type of bottoming file comes in 3 shapes, square, pointed and oval. With a set of these 3 shapes, most bottoming work can be done. They are sold single and in sets.

Price of the single tool \$1.60

Price of the complete set 4.50



Straight Shank Drills

Jobber Lengths			Each			Millimeter Sizes		
Size	C.S.	H.S.	Size	C.S.	H.S.	Carbon Steel		
	Each	Each				From .3 mm to 8. mm by 1/10 mm		
1/64"	\$.23	\$.42	23/64"	\$.53	\$1.30	.3 to 1. mm	\$.23	
1/32"	.23	.35	U	.58	1.40	.3 to 1. mm		
3/64"	.16	.25	3/8"	.59	1.40	1.05 to 2. mm	.17	
1/16"	.16	.25	V	.59	1.49	2.05 to 3. mm	.18	
5/64"	.16	.26	W	.63	1.53	3.1 to 4. mm	.19	
3/32"	.17	.28	25/64"	.63	1.53	4.1 to 5. mm	.21	
7/64"	.17	.32	X	.65	1.61	5.1 to 5.5 mm	.27	
1/8"	.19	.36	Y	.68	1.61	5.6 to 6.1 mm	.29	
9/64"	.19	.39	13/32"	.68	1.65	6.2 to 6.5 mm	.32	
5/32"	.19	.41	Z	.70	1.75	6.6 to 7.4 mm	.35	
11/64"	.20	.45	27/64"	.75	1.79	7.5 to 8. mm	.40	
3/16"	.23	.49	7/16"	.82	1.90			
13/64"	.25	.53	29/64"	.89	2.05			
7/32"	.26	.60	15/32"	.97	2.15			
A	.29	.63	31/64"	1.08	2.35			
15/64"	.27	.63	1/2"	1.18	2.45			
B	.29	.66						
C	.30	.66	Wire Gauge Sizes, Carbon Steel					
D	.31	.68						
E	.31	.68						
1/4"	.30	.68						
F	.32	.76						
G	.33	.76						
17/64"	.33	.76						
H	.33	.81						
I	.35	.81						
J	.36	.83						
K	.36	.84						
9/32"	.36	.84						
L	.37	.89						
M	.39	.92						
19/64"	.39	.92						
N	.41	.96						
5/16"	.41	.99						
O	.42	1.07						
P	.44	1.10						
21/64"	.45	1.10						
Q	.45	1.20						
R	.49	1.20						
11/32"	.49	1.20						
S	.49	1.29						
T	.53	1.30						

High Speed Steel

.35 to .6 mm	\$.42
.7 to 1. mm	.35
1.1 to 2.3 mm	.25
2.4 to 3.6 mm	.35
3.7 to 4.1 mm	.40
4.2 to 4.4 mm	.45
4.5 to 4.7 mm	.50
4.8 to 5.1 mm	.55
5.2 to 6. mm	.60
6.1 to 6.4 mm	.70
6.5 to 6.7 mm	.75
6.8 to 7.1 mm	.80
7.2 to 7.5 mm	.90
7.6 to 8. mm	.95

Sets of Straight Shank Drills

No.	Carbon Steel
5—1/16 to 1/2" by 64ths	\$13.50
6—1/16 to 1/2" by 32nds	7.00
8—Nos. 1 to 60	12.00
15—Letters A to Z	12.00
18—5 to 6. mm by 1/10 mm	11.50
19—1 to 13 mm by 1/2 mm	12.00

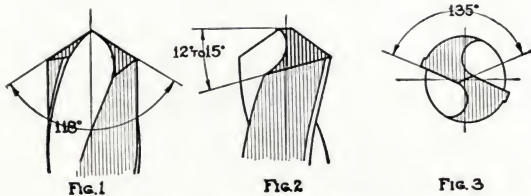
High Speed Steel

No.	
5H—1/16 to 1/2" by 64ths	\$30.00
8H—Nos. 1 to 60	22.65
15H—Letters A to Z	27.40

clearance (Fig. 2) angle of Chisel point 125° to 135° (Fig. 3) is best suited for drills in all average classes of work. Harder materials require a blunter point, softer ones a more acute angle.

Angles of Points

Material	Point
Steel 7% to 13% Manganese and hard materials.	{ 150° incl. angle 10° lip clearance
Heat Treated Steels—	{ 125° incl. angle 12° lip clearance
Drop Forgings.	{ 90° incl. angle 12° lip clearance
Cast Iron—Soft.	{ 60° and 90° included angle
Wood, Hard Rubber, Bakelite, Fiber.	



Cutting Edges Must Be of Equal Angle
and of Equal Length
Drills Grinding

To get the maximum efficiency and full life of a drill, it must be properly ground at the point. The commercial standard for angle drill point 118° included angle (Fig. 1.) 12° to 15° lip



Taper



Plug



Bottoming

U. S. System

Size	Taps	Rd. Dies	Number of Threads per Inch
0	@ \$.55	@ \$1.75	80
1/16	.55	1.75	64
1	.55	1.75	64, 72, 56
2	.50	1.60	56, 64
3/32	.45	1.45	48
3	.45	1.45	48, 56
4	.45	1.20	40, 48, 32, 36
5	.45	1.20	40, 44
1/8	.45	1.20	40
6	.45	1.20	32, 36, 40
5/32	.45	1.20	32, 36
8	.45	1.20	32, 36, 40
3/16	.45	1.20	24, 32
10	.50	1.20	24, 30, 32
12	.50	1.20	24, 32, 28
7/32	.50	1.20	24, 32, 28
14	.55	1.20	20, 24
1/4	.60	1.20	20, 24, 32, 28
5/16	.70	1.25	18, 24, 32
3/8	.75	1.55	16, 24
7/16	.90	1.55	14, 20
1/2	1.05	2.40	13, 20

Metric System

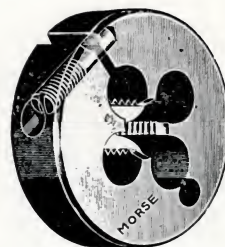
Diam. mm	Tap	Rd. Die	Pitch mm
1.5	\$.55	\$1.60	.35
2	.50	1.50	.45
2.3	.45	1.35	.40
2.5	.45	1.35	.45
2.6	.45	1.35	.45
3	.45	1.25	.60
3.5	.45	1.25	.70
4	.45	1.25	.70
4.5	.45	1.25	.75
5	.50	1.35	.75
5.5	.50	1.35	.90
6	.55	1.35	1.00
7	.60	1.35	1.00
8	.70	1.45	1.00
9	.75	1.50	1.00
10	.80	1.50	1.25

Hand Taps — Dies

Carbon Steel

Unless otherwise specified orders for taps will be furnished in Plug style. Sizes and dimensions not given are special. Left hand taps and dies are special. National Coarse (N. C.) is the same as former U. S. S. National Fine (N. F.) is the same as former S. A. F. National Special (N. S.) is the same as former U. S. S. French Standard pitches in sizes from 2 mm are those adopted by the French Navy and Department of War and approved by the Society for Advancement of National Industries.

International Standard pitches are the German extension of the Standard International System (S. I.) by the Deutsche Industrie Normen (D. I. N.).



Special Taps and Dies

Sights and Mounts

Size	Threads	Tap	Rd. Die
.125"	48W	@ \$1.00	@ \$1.50
.131"	48W	1.00	.....
.140"	48W	1.00	1.50
7	40	1.00	.....
3/16"	36W	1.00	1.50
3/16"	40W	1.00	1.50
.220"	40	1.00	1.50

Guard Screws

Rifle	Size	Threads	Taps	Rd. Dies
Enfield	.250"	30	@ \$1.25	@ \$1.50
Springfield	.250"	25	1.25	1.50
Mausers	.250"	22	1.25	1.50

Round dies for Sights and Mounts have an O.D. of 13/16".

Round dies for Guard Screws have an O.D. of 1". Tap .131"—48 is the number one tap for .140—48W.

Tap #7—40 is the number one Tap for #8—40. All special taps are supplied in Plug Style only.



Screw Plate Dies

These dies are needed where threads have to be cut to the required dimension, be it over or under-sized. They are interchangeable and fit Morse No. 1 Screw Plate.

Only with those dies you can cut the clean, proper fitting thread to keep the screw tight in place, so important in assembling actions, and in mounting sights and scopes.

Available in following threads.

Size	Threads	Price per Pair
.125"	48W	..... \$1.50
.140"	48W	..... 1.50
8	40	..... 1.50
3/16"	36W	..... 1.50
3/16"	40W	..... 1.50
.220"	40	..... 1.50
.250"	30	..... 1.50
.250"	25	..... 1.50
.250"	22	..... 1.50



Hand Reamers

Reamers for Brass or Bronze require special clearance and are so furnished on request.

Inch Sizes		Millimeter Sizes		
Inch	C.S.	H.S.	M.M.	C.S.
1/8	\$1.85	\$3.50	3	\$1.85
5/32	2.20	3.80	3.5	2.20
3/16	2.20	3.80	4	2.20
7/32	2.60	4.10	4.5	2.20
1/4	2.60	4.10	5	2.60
9/32	2.85	4.40	5.5	2.60
5/16	2.85	4.40	6	2.60
11/32	2.95	5.00	6.5	2.75
3/8	2.95	5.00	7	2.75
13/32	3.20	5.60	7.5	2.80
7/16	3.20	5.60	8	2.80
1/2	3.50	6.50	8.5	2.95
			9	2.95



Die Stocks

For round adjustable dies. These die stocks are practically unbreakable, well balanced and easy to handle.

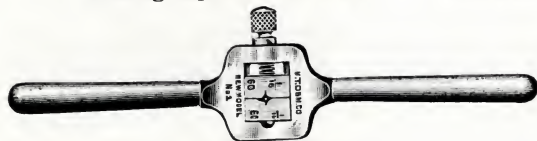
No. 2—Length 6", die O.D. 13/16" @ \$1.70
No. 3—Length 8 1/2", die O.D. 1" @ \$2.10



Tap Wrenches

These wrenches are strong and very well balanced for ease in handling. These are nicely finished and the jaws are carefully hardened and tempered for maximum wear.

No. 1—Length 5 1/2"
Fitting taps 1/16 to 1/4 @ \$3.55
No. 2—Length 6"
Fitting taps 1/16 to 5/16 @ \$4.60



Screw Plates

No. 1—Length 6 1/2"
Capacity 1/16 to 1/4" @ \$3.65

These screw plates are of an improved pattern and finish. They are light and durable, and are so perfected as to admit of a change of Die most quickly.

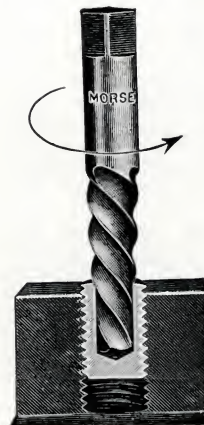


These countersinks are made in high speed steel and ground from the solid. They have a shearing cut and are shatterless. They take a heavy cut

Taper Pin Reamers

These Reamers have the same taper, and each will overlay in convenient measure the next size smaller.

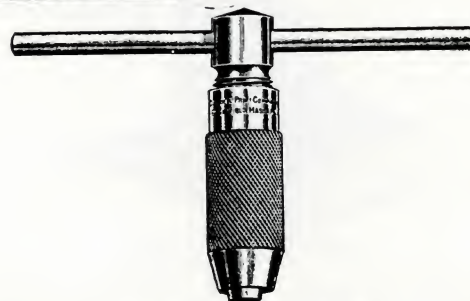
Size No.	Price Each	Diam. at Small End Inches	Size No.	Price Each	Diam. at Small End Inches
7/0	\$2.20	.0497	2	\$1.60	.1605
6/0	2.00	.0611	3	1.50	.1830
4/0	1.95	.0869	4	2.20	.2071
5/0	1.95	.0719	5	2.50	.2409
3/0	1.95	.1029	6	2.80	.2773
2/0	1.60	.1137	7	3.15	.3297
0	1.25	.1287	8	3.75	.3971
1	1.25	.1447	9	4.35	.4805



Screw Extractor

When it is desired to remove a broken screw, drill a hole in it, insert a screw extractor and turn to the left to take out the screw.

Ex-tractor No.	Price Each	For use on Screw Size	Size Drill to use
1	\$.55	No. 8, No. 10	5/64
2	.60	No. 12, 1/4	7/64
3	.65	5/16	5/32
4	.75	3/8	1/4
5	.85	7/16 to 9/16	17/64



TAP WRENCHES

Designed for securely holding taps, reamers, and other tools with square shanks that must be operated by hand. The handles are permanently fixed in the solid steel body. The chuck shell is long and nicely knurled to provide powerful clamping action on the carefully heat-treated steel jaws. Jaws are self-operating. Entire tool nicely polished.

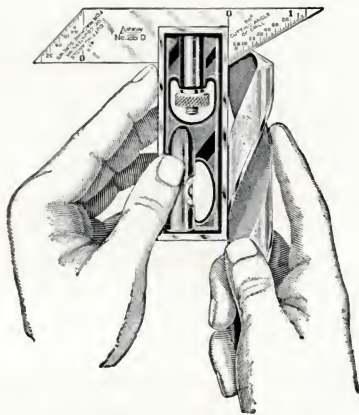
	Hand Tap	Machine Tap	Handle	Weight	each Price
No. 88	1/16-1/4"	0-14	3 1/2"	3 1/2 ozs.	1.25
No. 89	5/32-1/2"	7-20	4 1/2"	4 1/2 ozs.	1.25

Shatterless Countersinks

82° Angle

and give a smooth seat. Made in the following sizes:

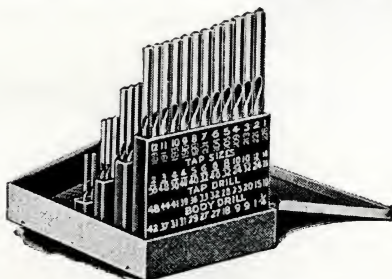
Size	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"
Price	\$1.50	\$1.75	\$2.00	\$2.60	\$3.75	\$4.75



Drill Grinding Gauge

This is an ideal tool for use in drill grinding work yet of moderate price. With it the cutting edges of drills and countersinks are most readily and accurately tested for proper angle, and their points for proper centering.

The bevel of blade at one end is 59 degrees, representing the cutting angle of drills, and the other end is 41 degrees, the cutting angle of countersinks for machine screws. The two bevel ends of blade are graduated to 64th of an inch and have Readable Numbering, as on steel rules. 26D—Drill Grinding Gauge Complete each \$5.20



Huot's Drill Index

Keep your drill in a drill stand and indexed container for instant selection of required drill. Gives drill size, tap size and decimal equivalents.

No. 60 Wire gauge sizes 1 to 60 inclusive, decimal equivalents, machine screw tap information. Price \$3.75

No. 29 Fractional sizes from 1/16" to 1/2" inclusive. U.S.S. and S.A.F. tap information. Price \$4.25

No. 26 Letter sizes A to Z. Price \$4.00

Prices do not include drills.

Lubricants For Cutting Tools

Cutting Lubricants are used to keep the tools cool and to reduce the wear on the cutting edges, permitting fast cutting speeds.

The chart below gives an idea of the uses of cutting lubricant or coolant.

Abbreviations: Soluble Oil—SO; Lard Oil—LO; Sulphur Base — SB; Kerosene Mixture — KM; Dry—D.



Drill Angle Gauge

To eliminate the guess-work in having the drill points properly ground, a drill angle gauge is essential. The above illustrated Hjorth Drill Angle Testing Gauge, is a simple one to operate, an inexpensive but accurate tool. Complete instructions on how to use is supplied with each gauge. They are made in 3 sizes, but only 2 are carried in stock.

No. 1—Capacity up to 1/2" drill each \$2.50

No. 2—Capacity 1/2" to 1" drills each 3.25



Screw Pitch Gauges

Designed to measure the pitch or number of threads per inch of both U. S. Form Thread and sharp "V" Thread.

Each blade marked with its pitch.

Series 74 have patent locks, those of Series 73 are without lock; otherwise the two series are identical.

No. 73A has 22 blades, pitches ranging from 8 to 48. Pitches: 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 24, 27, 28, 30, 32, 34, 36, 38, 40, 44, 48. Price each \$2.20

No. 73B has 24 blades, pitches ranging from 4 to 36. Pitches: 4, 4½, 5, 5½, 6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 24, 27, 28, 30, 32, 36. Price each \$2.60

No. 73C has 28 blades, pitches ranging from 8 to 80. Pitches: 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 24, 27, 28, 30, 32, 36, 38, 40, 44, 48, 50, 56, 60, 64, 72, 80. Price each \$3.00

No. 74A with patent lock each \$2.60

No. 74B with patent lock each \$3.00

No. 74C with patent lock each \$3.40

Materials—	Drilling	Tapping	Reaming
Machinery Steel	SO	SO or LO	LO
Tool Steel,			
C. S. & H. S.	SO or OL	SB or LO	LO
Brass	LO & KM	SB or LO	SO
Bronze	SO or D	SO or LO	SO or D
Malleable Iron			
Castings, etc.	SO	SO	SO

Hard Arkansas Oilstone

A natural stone, quarried in the Ozark Mountains, gives the finest edge of any oilstone in existence, either natural or artificial. Hard Arkansas is unequalled for sharpening the finest tools—requiring a keen sharp edge—like gravers, etching needles, reamers, gouges and carving tools. It is unequalled for smoothing sears, ejectors, trigger-pull on revolvers, rifles and shotguns. Following sizes in "Hard" are carried in stock.

Square—approx. size $3 \times \frac{3}{8}$ ", each.....	\$1.05
Triangle—approx. size $3 \times \frac{3}{8}$ ", each.....	1.05
Round—approx. size $3 \times \frac{1}{4}$ ", each.....	1.40
Knife—approx. length 3", each.....	1.60
Flat—approx. length 3", each.....	1.75
Bevel—approx. length 3", each.....	1.25
Diamond—approx. length 3", each.....	2.00
Oval—approx. length 3", each.....	1.70
Point—approx. length 3", each.....	2.00
Carving tool slips—approx. size $2\frac{1}{4} \times \frac{7}{8} \times 3/16$, each.....	1.10

A set of 4 slips enables the gun-stocker and carver to keep all sizes of straight and bent gouges in perfect condition.

India Oilstones

Made from aluminum oxide by a process, which produces stones unequalled by any artificial stone in speed of cut, long life, maintenance of shape and smoothness of resulting edge on tool. Factory-impregnated with oil and ready for use with slight further application of oil.

Listed shapes were especially selected for the gunsmith; a set of these shapes will help keep tools sharp, remove roughness and smoothen actions. They are carried in stock in "Medium."

Square—approx. size $4 \times \frac{3}{8}$ ", each.....	\$.55
Triangle—approx. size $4 \times \frac{3}{8}$ ", each.....	.65
Round—approx. size $4 \times \frac{3}{8}$ ", each.....	.75
Half Round—approx. length 4", each.....	.90
Diamond—approx. length 4", each.....	1.25
Knife—approx. length 4", each.....	.95
Flat—approx. length 4", each.....	1.05
Oval—approx. length 4", each.....	1.05

India carving tool slips—approx. size $2\frac{1}{4} \times \frac{7}{8} \times 3/16$, each..... .60

India: Taper, approx. length 4" No. 424, 454, 474, 544, 644 each \$1.05

India-Washita Oilstone

Combines in one stone the fast cutting quality of the India with the fine finishing quality of the Washita.

A favorite of gunstockers and carvers.

Size 7" x 2" x 1" @ \$2.40

Engravers Pencil

India oilstone @ \$1.20
Arkansas oilstone 1.50

Sportsman

Nothing adds more pleasure to a hunting or fishing trip than to have camp knives, axes, hatchets, gaffs and fishhooks in first class shape. The Sportsman Stone has a fast cutting India for quick sharpening and a fine Washita for extra keen edges. A durable leather case supplied with each stone.

Size 3 x 1½" x ½"

Price \$.90



644



544



424



454



474



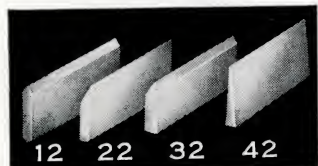
India — Washita



Engravers Pencil



Sportsman Stone



Carving Tool Slips



Garnet Paper

For general hand sanding of soft and hard woods or where the equipment is run on low and medium speeds. It is popular among wood finishers, especially for sanding woodsealers and undercoats.

The Garnet paper is available in sheets measuring 9" x 11" and is supplied in following grits: 2/0, 3/0, 4/0, 5/0, 6/0 and 7/0.

Price per 10 sheets is

\$.95



Metalite Cloth

Is being used for hand and machine sanding. It is ideal for metal finishing and polishing. This product is extremely sharp and fast cutting with just the right degree of flexibility for hand operation.

It is available in sheets 9" x 11" and comes in following grits: 100, 120, 150, 180, 240 and 320. Price per 10 sheets

\$2.30

Emery Cloth

The old reliable standby of the metal worker is being used for polishing. The sheets measure 9" x 11" and are being stocked in No. 3/0, 2/0, 0 and 1.

Price per 10 sheets

\$1.20

Crocus Cloth

It is being used only for fine polishing of steel, copper, brass and silver.

Size 9" x 11", price per 10 sheets

\$1.20

Polishing Paste

To charge felt and cotton buffs for polishing hard and soft metals; following pastes are carried in stock.

Emery Paste No. 80, 120, 150 and 200.

3 lb. cake

\$.80

Crocus Compound

1 lb. cake

\$.40

3 lb. cake

1.00

Tripoli

¾ lb. cake

\$.25

1 lb. cake

.75



Handy Roll

Metalite Handy Rolls are very useful in hand polishing of rounded parts, like gunbarrels, actions and tools. Can be cut to length and glued for belt sanding equipment.

The sizes 1" and 1½" wide are carried in stock and can be had in 5 and 50 yd. rolls. The available grits are 100, 120, 150, 180, 240 and 320.

Price: 1" wide, 5 yards long

\$.65

1" wide, 50 yards long

5.80

1½" wide, 5 yards long

.95

1½" wide, 50 yards long

8.10



Polishing Powders

The Norton electric furnaces abrasives Alumdum and Crystolon when mixed with oil, vaseline or water are ideal for grinding and lapping of gunbarrels, stamping and forming dies, valves, etc., when applied to polishing wheels do outcut and outlast emery; pro or amateur will find them suitable for polishing metal parts prior to plating and bluing. Both Alumdum (Aluminum Oxides and Crystolon (Silicon Carbide) are available from stock in following grains: No. 120, 180, 220, 280, 320, 400 and 500.

Alumdum

No. 120, 180, 220

½ lb. \$.40

No. 280, 320, 400, 500

½ lb. .45

No. 120, 180, 220

1 lb. .60

No. 280, 320, 400, 500

1 lb. .70

Crystolon

No. 120, 180, 220

½ lb. .50

No. 280, 320, 400, 500

½ lb. .55

No. 120, 180, 220

1 lb. .75

No. 280, 320, 400, 500

1 lb. .80

Oilrock Powder

Crushed natural oilstone for use, where high polish or finish without scratching is required. Excellent for final lapping of gun-barrel and sizing dies.

Price: ½ lb. \$.40

1 lb. \$.75

Crocus Powder

Where very high polish is required.

Price: ½ lb. \$.35

1 lb. \$.60



Brightboy

Brightboy rubber bound abrasive discs and wheels are extensively used in grinding, polishing, removing rust, tarnishes and stain from metals, heat marks from stainless steel, deburring and rounding sharp edges. They are used in fitting and polishing of new parts, springs, telescope and sight bases, and in tool and die making.

Made in three grades, Standard, Fine-Tex and Tuff-Tex. Standard and Fine-Tex for softer metals, Standard and Tuff-Tex for harder metals. The applications where they can help are practically limitless and the most suitable grade for type of work can be selected from one of the three grades.

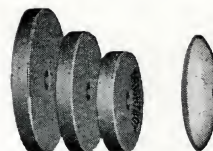


Brightboy Lathe Wheels

The lathe wheels are for heavier work. Sizes, of all three grades, carried in stock are listed below. Do not use on taper (screw) arbor, wheels should be securely clamped between wide flanges and operated within recommended maximum speeds. If not specified on your order, Standard grade will be shipped.

Diam.	Face	Hole	Price each
1 1/4"	3/4"	1/4"	\$1.15
2"	1/2"	1/2"	1.30
2 1/2"	1/2"	1/2"	1.40
3"	1/2"	1/2"	1.45
3 1/2"	1/2"	1/2"	1.60
4"	1/2"	1/2"	1.80
4"	3/4"	1/2"	2.25
5"	1/2"	1/2"	2.40
5"	3/4"	1/2"	2.85
6"	1/2"	1/2"	3.20
6"	3/4"	1/2"	3.90

5" and 6" \emptyset wheels are also available with 5/8" arbor hole.



Brightboy Discs

For fine work on small parts, tools and dies, very handy for polishing the inside of rings and curved parts like trigger guards and levers. Available in all 3 grades, please specify on your order which is needed, prices are the same.

No.	Diam.	Face	Hole	Price each
4	1/2"	1/8"	1/16"	\$.08
5	1/2"	1/4"	1/16"	.08
6	5/8"	1/8"	1/16"	.08
7	5/8"	1/4"	1/16"	.08
8	3/4"	1/8"	1/16"	.10
9	3/4"	1/4"	1/16"	.10
10	1"	1/8"	1/16"	.10
11	1"	1/4"	1/16"	.10
3	5/8"	tapered		.10



Brightboy Stick

A shape designed for gunsmiths, tool and die-makers to allow accessibility to narrow or deep depressions as on actions, reloading tools and dies, etc. A fine tool for fine work.

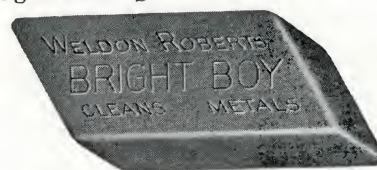
Stick with holder	each \$.40
Sticks (refill) only	each .18



Cylinders and Rods

For jobs—cleaning of recessed parts in dies and in engine turning—which can be done better and easier, by having the Brightboy stick spinning in a lathe or drill press, following cylinders and rods are in Standard in stock:

7/8" long x .285" \emptyset	each \$.10
2 1/2" long x 3/8" \emptyset	each .15
3/4" long x .625" \emptyset	each .15



Tablet

A handy tablet for removing rust, bluing, heat-marks, etc. on flat surfaces as sideplates on revolvers and shotguns or on revolving parts in lathes and drillpresses and wherever it is not practical to use the polishing wheels. Only Standard grade carried in stock.

Price each	\$.40
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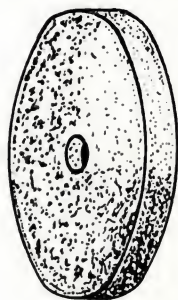
Felt Wheels, Points and Sheets

To secure a smooth action of the various movements in a gun and to improve its appearance, a gunsmith spends nearly as much time to polish and finish parts, from the smallest pin to the complete gun, as he requires to make them. Much of the time spent for polishing can be saved by employing felt polishing wheels and points to do the work. Below there are listed wheels and points for every purpose of inside and

outside polishing on straight and bent parts, for hand rubbing there are listed sheets of different dimensions. Other uses for these sheets are, making polishing and buffing sticks and for padding vise jaws.

The wheels are made from white Spanish felt of medium hardness. They come with $\frac{1}{2}$ " arbor hole.

Select the size you require and send for it now.



Wheel



56



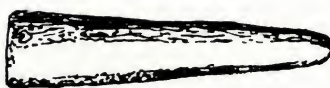
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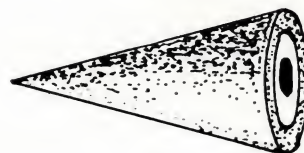
72



54



64



68

Wheels:

Diam.	Face	Price each
4"	$\frac{1}{2}$ "	\$2.00
4"	$\frac{3}{4}$ "	3.00
4"	1"	4.00
5"	$\frac{1}{2}$ "	3.00
5"	$\frac{3}{4}$ "	5.25
5"	1"	6.00
6"	$\frac{1}{2}$ "	4.00
6"	$\frac{3}{4}$ "	5.50
6"	1"	6.25

Prices and Sizes

Felt Sheets

Size	Price each
4"x9"x $\frac{1}{4}$ " thick	\$1.70
9"x9"x $\frac{1}{4}$ " thick	3.25
4"x9"x $\frac{3}{8}$ " thick	2.55
9"x9"x $\frac{3}{8}$ " thick	5.00
4"x9"x $\frac{1}{2}$ " thick	3.35
9"x9"x $\frac{1}{2}$ " thick	6.55

Points:

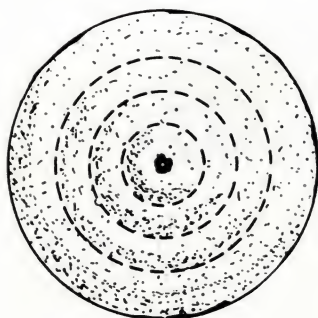
No.	Size	Price each
54	2 $\frac{1}{2}$ " diam.	\$.65
54	3" diam.	.90
56	1"x $\frac{1}{2}$ " diam.	.30
56	1 $\frac{1}{2}$ "x $\frac{3}{4}$ " diam.	.40
57	1"x $\frac{1}{2}$ " diam.	.30
57	1 $\frac{1}{2}$ "x $\frac{3}{4}$ " diam.	.40
64	3" length	.50
64	4" length	.65
68		.40
72	3" length	1.25
72	4" length	1.50

Cotton Buffs

Where flexibility in polishing is essential, one takes to cotton buffs. They are the standard equipment for cutting and smoothing rough-turned stocks. Their usefulness is not limited to wood, they can be used on metal too. Charged with fine polishing paste they give a good result in final polishing of barrels and actions prior to bluing. To supply the different requirements following wheels are carried in stock.

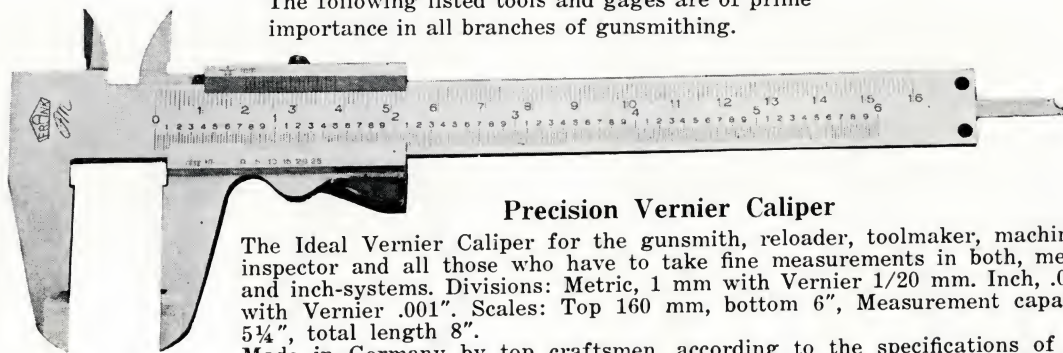
	Price each		Price each
4" ϕ 18 ply	\$.40	4" ϕ 50 ply	\$1.00
6" ϕ 18 ply	.60	6" ϕ 50 ply	1.75
8" ϕ 18 ply	.95	8" ϕ 50 ply	1.90
10" ϕ 18 ply	1.25	10" ϕ 50 ply	2.75

All 18 ply have 1 row sewing, 4" and 6" in 50 ply have 3 rows and 8" and 10" in 50 ply have 4 rows of sewing.



Precision Tools and Gages

The following listed tools and gages are of prime importance in all branches of gunsmithing.



Precision Vernier Caliper

The Ideal Vernier Caliper for the gunsmith, reloader, toolmaker, machinist, inspector and all those who have to take fine measurements in both, metric and inch-systems. Divisions: Metric, 1 mm with Vernier 1/20 mm. Inch, .025" with Vernier .001". Scales: Top 160 mm, bottom 6", Measurement capacity 5 1/4", total length 8".

Made in Germany by top craftsmen, according to the specifications of the German Industrial Norm No. 862. Hardened throughout and highly polished. Available in Chrome or Stainless Steel. This precision Vernier Caliper including wooden case

Chrome Steel
Stainless Steel

only \$15.50
only \$18.75



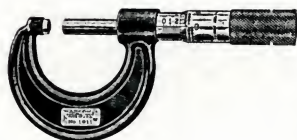
Micrometer Caliper

The micrometer is the gunsmith's most essential measuring instrument. There is hardly an operation in his daily work, which does not require the micrometer, and be it only for checking the diameter of a drill.

Chrome clad finish, cut away frame, hardened and ground thread, one piece spindle, rapid reading, each thousandth is numbered.



For measuring by thousandths	Range 0 to 1"		Range 1" to 2"	
	No.	Price	No.	Price
Plain	1611	@ \$12.75	1612	@ \$14.25
With lock nut and ratchet stop.....	1641	14.75	1642	16.25
For measuring by tenthousandths				
Plain	1611V	15.25	1612V	16.75
With lock nut and ratchet stop.....	1641V	17.25	1642V	18.75



Chrome clad, cut away, enameled heavy ribbed frame

For measuring by thousandths	Range 0 to 1"		Range 1" to 2"	
	No.	Price	No.	Price
Plain	1911	@ \$ 9.25	1912	@ \$10.50
With lock nut and ratchet stop.....	1941	11.25	1942	12.50
For measuring by tenthousandths				
Plain	1911V	11.75	1912V	13.00
With lock nut and ratchet stop.....	1941V	13.75	1942V	15.00

Metric Micrometer:

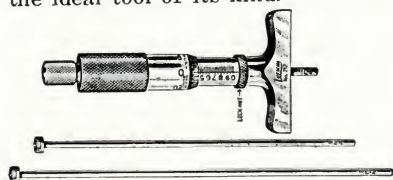
These micrometers can be supplied in metric—0 to 25mm and 25 to 50mm by hundredths of mm—at prices same as corresponding sizes in inches.

Depth Gage

This is a handy Depth Gage for the gunsmith. Case-hardened head—designed to fit the hand nicely—is 2 1/2" wide across the base and 1/8" thick. For easy reading of graduations the head is deeply notched on one side. Round rod is tempered, machine divided and fitted in slot of head, it can be securely clamped at any point by means of knurled nut and tension spring. This is the only depth gage having graduations on the round rod. Rod is graduated 4" to 32nds. Being only 1/10" in diameter, it gives access to small holes. Measurements are arrived at, without the additional use of a rule, making this the ideal tool of its kind.



Number 512 Depth Gage
each \$2.75



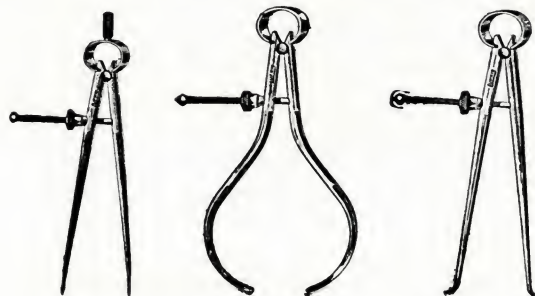
Micrometer Depth Gage

This Micrometer Depth Gage is particularly adapted for use in small places and in very small holes, slots, etc. Diameter of measuring rod is but 3/32", length of base 2". Base and end of rods are hardened and ground. This gage has patented lock nut which permits the reading to be maintained. For Measuring by Thousandths.

No. 212 Micrometer Depth Gage, 2" base, range 0 to 3"....each \$15.25
With Ratched Stop each \$16.00

Dividers and Calipers

To the Gunsmith's important tools belong the divider, inside and outside caliper and the hermaphrodite caliper. There is no lay-out, aligning



Divider
No. 140

Outside
No. 141

Inside
No. 142

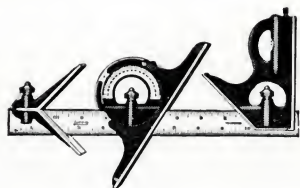
Round Leg Pattern

This is the type of caliper and divider, preferred by fine mechanics. The legs are of round steel, nicely tapered by swagging. The adjustment screw is mounted central in the legs, avoiding all torsion on legs and spring. Stiff flat bow spring insures reliability. Parts most subject to wear are hardened.

Prices are the same on dividers and calipers.

Length 2"	@ \$1.80	Length 5"	@ \$3.00
Length 3"	2.30	Length 6"	3.20
Length 4"	2.75		

Combination Square



The most used square a gunsmith has is the combination square. There are so many and varied uses for it, from squaring off stocks, finding center-line on

muzzles to angles on reamless cartridges, to make the combination square almost indispensable. The combination set has 12" tempered blade, drop forged center head and square, and reversible protractor.

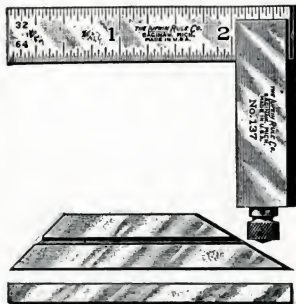
No. 635 Combination Set as illustrated
Price @ \$16.25

No. 35C Combination Set—no Protractor
Price @ 9.75

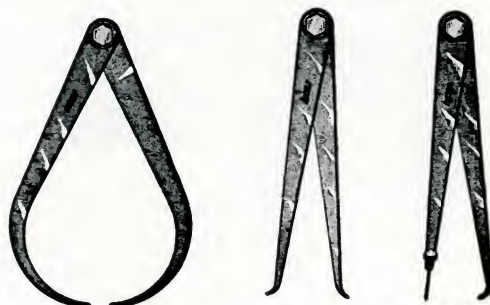
Double Square

Designed for the small work of tool and die makers, and gunsmiths. Both faces of head are square. All blades slide in head, permitting use in places where a square with fixed blade could not be used.

No. 137C complete with standard, bevel and narrow blade \$6.25.



or checking job on the bench or machines, which could be done without using one of these tools.



Outside
No. 11

Inside
No. 12

Hermaphrodite
No. A-17

Firm Joint Calipers

Joint with adjustable tension is the distinctive feature of these firm joint calipers. Lock screw construction enables one to set and hold the legs to any desired tension or friction, always operating smoothly. Hermaphrodite caliper is being used for locating centers, laying out work, etc.

	Outside and inside calipers	Hermaphrodite calipers
Length 4"	@ \$1.20	@ \$1.25
Length 6"	1.20	1.50
Length 8"	1.50	1.80

Double Square

Handy for gunsmith, patternmakers, machinists and tool-makers.

Blades are tempered. Both faces of head are square, polished and enameled parts are well finished. Blade length adjustable by moving head. Head securely set at any point by thumb screw. The 6" and 15 cm square have level glass. Bevel blade gives hexagon and octagon angles and is so marked.

No. 26B 4" blade	Price @ \$4.30
No. 26B 6" blade	" 6.25
No. 26BM 10 cm blade	" 4.30
No. 26BM 15 cm blade	" 6.25

Solid Square

They are used as master squares and in checking close work, like aligning front and rear sight bases, telescope mounts and wherever exact squaring is

important. Both beam and blade are lapped. At the inner corner, the beam is grooved to afford clearance for burr or dirt.

No. 166 Blade length 1½"	Price @ \$ 6.00
No. 166 Blade length 3"	" 7.75
No. 166 Blade length 4½"	" 10.50
No. 166 Blade length 6"	" 13.50





Universal Surface Gage

The base is well proportioned, the bottom and end being grooved out for cylindrical work. Has 4 gauge pins used as guides on linear work. The spindle is made of rigid hollow tubing. It can be used upright, at any angle or such that the scriber can be used below the base. After the spindle is clamped in the approximate position desired,

the fine adjustment nut at one end is used to get the exact setting. The hardened base is finished in mottled blue with all measuring faces ground and polished.

No. 520A with 9" spindle Price @ \$8.80
No. 520B with 9" and 12" spindle " 9.80

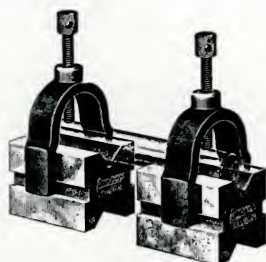
V Block and Clamps

These V blocks and clamps are built for use where an extremely accurate setting is required, and are suitable also for general run of work. V blocks are employed in holding work for drilling, milling, grinding and other operations, and in laying out in connection with surface or angle plate.

Blocks are made of tool steel, hardened and ground, are 1 5/8" long by 1 1/4" square. Clamps are drop-forged, clamping capacity one inch.

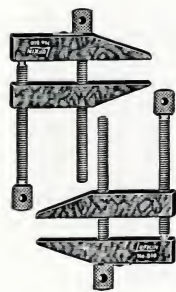
No. 905 Set of V blocks and clamps.

Price \$10.25



Parallel Clamps

These clamps are used in holding telescope and sight bases, clamping work to face and angle plates, etc. Holding small work together for drilling and tapping. Made of steel and case hardened. Clip attachment prevents sliding of loose jaw on the screw.



	Clamping Capacity	Price per Pair
No. 910A	3/4"	\$2.40
No. 910B	1 1/4"	2.90
No. 910C	1 3/4"	3.30
No. 910D	2 1/4"	4.00
No. 910E	2 3/4"	4.60
No. 910F	3 1/2"	8.20

Pocket Scriber

Very handy tool for any mechanic. Scriber point is of best quality steel, properly tempered and with shank designed to hold it solidly in handle by means of knurled chuck.

No. 87A Pocket Scriber

Price @ \$.70



Center Punches

A set of Center Punches is needed in a gunsmith shop where precision work is the rule. These Center Punches are made of quality tool steel, are properly shaped and points carefully ground. They are hardened and polished with body knurled for firm finger grip.

Available in following lengths:

3 1/8", 3 1/2", 3 7/8", 4 1/4" and 4 5/8" inches....each \$.35
5 inch length.....each .40

Automatic Center Punch

An automatic center punch is almost indispensable for fine work, and handy for all marking because it assures speed as well as accuracy. Force of blow is regulated by screwing the knurled cap. Set at any one point, the tension of spring is constant, giving impressions of uniform depth.

Point is easily removed, ground and replaced, Extra points are available.

No. 1671A Automatic Center Punch

Price @ \$3.85
Extra Points .35



Drive Pin Punches

It is very important to use the proper size of a Drive Pin Punch when removing pins from actions, etc. To have the right one on hand, the following set of 6 punches should be on any gunsmith's bench. Made of best quality tool steel, they are nicely shaped, hardened and polished and body knurled for a good grip. Made in following sizes: Diameter of points: 1/16", 3/32", 1/8", 5/32", 3/16" and 7/32".....each \$.35



Aligning Punch

This tool is especially useful in assembling actions, being used to line up holes through which pins, bolts or screws are being pushed. Made of tool steel, spring tempered, handle knurled and taper polished.

Body 1/2"; point 3/16"; length 10"....each \$.95

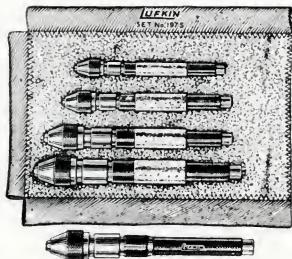
Scriber

The usefulness of a scriber — in a gunsmith shop — is so manifold, that it pays well to have 2 or 3 around. Their points are of quality steel, properly hardened. Points like stock have knurled portions for solid finger grip.

Scriber, complete as illustrated.....\$1.15

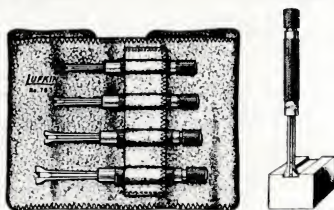


Pin Vises



These are well-proportioned vises for holding small stock to be worked, also holding taps, drills, scribes and small files, in fact any small piece inserted in them. These vises have hardened jaws. Hole running through handle affords the chuck a close-up grip, even on long rods, and this hole will accommodate stock up to full stated capacity of the vise. Knurling on convenient locations gives firm hold, and smooth bearing portion insures true running when clamped in collet or chuck.

No. 197A Capacity .0 to .055"....Price @ \$1.00
 No. 197B Capacity .025 to .075"....Price @ 1.00
 No. 197C Capacity .045 to .135"....Price @ 1.20
 No. 197D Capacity .110 to .200"....Price @ 1.20
 No. 197S Set of 4 pin vises in leatherette casePrice @ 4.80



Small Hole Gage

These small hole gages are ideal for measuring the diameter of a small hole or the width of a slot or groove.

To operate, simply insert the ball end of the proper size gage in the hole or groove, turn the knurled knob until the right "feel" is obtained and then measure ball end with a micrometer. Lufkin small hole gages are made of special analysis steel with hardened ball ends. Size of handles are in proportion to the size of gage affording proper balance essential to accurate measurements.

No. 78A Range 1/8" to 3/16"....Price @ \$2.70
 No. 78B Range 3/16" to 1/4"....Price @ 2.80
 No. 78C Range 1/4" to 3/8"....Price @ 2.90
 No. 78D Range 3/8" to 1/2"....Price @ 3.00
 No. 78S Set of 4 gages in leatherette casePrice @ 12.60

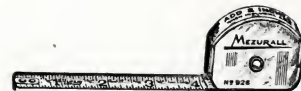


Drive Punches

To prevent damaging or marring sight leaves, sight bases or slot blanks, etc. when removing them, use a copper or fibre drive punch, by doing that you save yourself plenty extra work.

Copper or fibre rod 4" long 1/4" thick @ \$.15
 Copper or fibre rod 4" long 5/16" thick @ .20

Mezurall Tape Rules



The Mezurall is a very compact tape rule. Case 2" wide 9/16" thick, nickel plated, with rounded corners and is well finished. Blade is 1/2" wide, nickel plated with dark prominent markings. It can be projected unsupported, like a rule, to walls, ceilings, across openings, etc., yet will also flex to properly measure circles and odd shapes. The blade is manually withdrawn and returned to case, runs smoothly and remains set at any length withdrawn. Blade marked one side, both edges, inches to 16th. First 6" upper edge to 32nds. 72" blade....each \$2.00 96" blade....each \$2.25



Center Gages

Center gages are used in grinding and setting of screw cutting tools. They are carried in stock in U.S. 60°, Whitmore 55°, and Metric 60°. The graduations are those most commonly required in determining the number of threads per inch or per centimeter. All are of spring tempered steel, of approximate length 2 1/4", width 11/16", thickness 1/25".

No. 36 U.S. Standard 60°.....\$.80
 No. 37 Whitworth Standard 55°......80
 No. 36M Metric 60°80



Spring Tempered Rule

These are very flexible spring tempered rules, accurately ground and graduated. They are ideal for laying out checkering patterns on forearm and for taking measurements around curved patterns. Caution: Do not bend too sharply.

No. 2105R	Length	6 in.	12 in.	18 in.	24 in.
	Width	1/2 in.	1/2 in.	3/4 in.	3/4 in.
	Price	\$1.35	2.50	4.00	4.75

No. 2100M	Length	10 cm	20 cm	30 cm	50 cm
	Width	12mm	12 mm	12 mm	18 mm
	Price	\$1.15	1.85	2.50	4.00

Inch rule has 1/10", 1/100", 1/32" and 1/64" divisions. Metric rule has 1mm and 1/2 mm divisions.



Pocket Screw Drivers

Screw driver blade fits into lock of handle which prevents turning and the knurled chuck holds blade from falling out. A slight turn of the chuck releases the screw driver so that it may be inserted into the handle when not in use. Blades are properly tempered.

No. 187A Diameter handle 1/4"....Price @ \$.80
 No. 187B Diameter handle 3/8"....Price @ .85
 An ideal screw driver for adjusting sights, when you are on the range or in the field.

Electric Heat-Treating Furnaces

The following Huppert Electric furnaces are the product of years of research and manufacturing experience. Designed for simple operation and servicing. Constructed of heavy steel gauge for ruggedness and abuses and finished in black wrinkle. Multi-insulation for low operating cost and accuracy in temperature maintenance.

Elements are of heavy special alloy wire, that is non-flaking, non-oxidizing and practically impervious to attack from sulphur and its compounds.

Doors are counter balanced and tight closing to prevent heat-loss and oxidation. All contacts are totally inclosed. Removable loading trays are of porcelain or siliminite. Pyrometers may be had in Fahrenheit or Centigrad. Each furnace is a complete unit, ready to use.

Hearth—inside—dimensions of the listed furnaces have been selected from a large assortment— $1\frac{1}{4}" \times 1\frac{3}{8}" \times 2"$ to $29" \times 28" \times 72"$ —for their usefulness in the average gun—machine—or experimental shop and laboratory.

Most of the Huppert bench furnaces can be had in Regular and Deluxe models.



Huppert No. 2

Altho the No. 2 Furnace is the lowest priced unit in the line, it must be accepted as an outstanding furnace investment. It is precision built to completely satisfy laboratory testing requirements and rugged enough to stand years of abuse in small batch production.

Specifications

3 Heat Ranges:

Low	0°— 400° F.
Medium	400°— 900° F.
High	900°—1500° F.

Inside Dimensions:

$4\frac{1}{4}"$ wide, $3\frac{5}{8}"$ high, $4\frac{1}{2}"$ deep.

Overall Dimensions:

12" wide, 13" high, 12" deep.

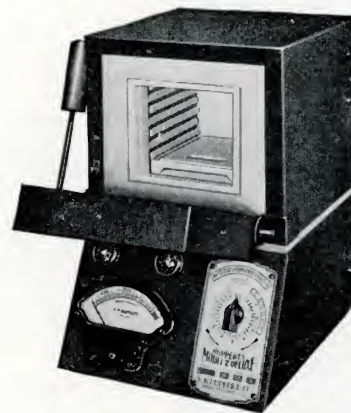
Operates on 110 volts, A.C. or D.C., with maximum load of 900 watts, minimum load of 220 watts.

Price — including
Pyrometer — \$56.00
F.O.B. Factory

The regular models can be operated on A.C. or D.C. and require personal attention in adjusting the heat-input and in maintaining the desired temperature. These furnaces have 3 heat-ranges (high, medium, low). To operate, set heat-range switch to either high, medium or low position until the desired temperature has been reached, then turn off the power, if a heavier part requires more time to be thoroughly and evenly heated the switch may be turned on a few minutes and off again.

The Deluxe models can be operated on A.C. only. They are decided improvements over the regular units, as temperature can be reached and maintained by means of a balanced Input Controller and Heat-Range switch. There is no danger of overheating the work parts and of burnt-out elements. Simple to operate, turn heat-range switch to the needed position and set Automatic Control to temperature desired.

With each furnace complete instruction on maintenance and servicing are supplied.



Huppert N. 2 Deluxe

Here you have the famous model No. 2 furnace with added feature of the new Huppert Automatic Precision Control. A more dependable furnace is not made for laboratory and small unit production of springs, firing-pins, drills, taps and short reamers, when continuous operation and long hard usage are required.

Specifications

Inside Dimensions:

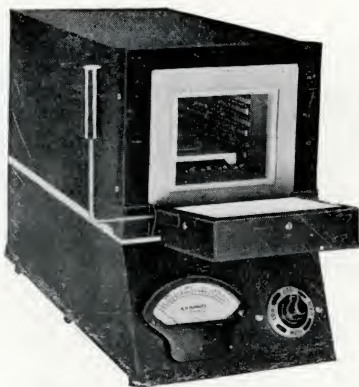
$4\frac{1}{4}" \times 3\frac{5}{8}" \times 4\frac{1}{2}"$

Overall Dimensions:

12" x 13" x 12"

Operates on 110 volts, A.C. only. Maximum current consumption 1600 watts. Controlled heat range 325° F. to 1800° F.

Price—including Pyrometer
and automatic control — \$80.00
F.O.B. Factory

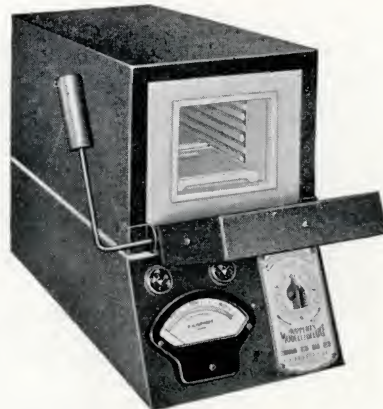


Huppert No. 22

Basically the same furnace design and standard as the No. 2. The No. 22 provides double the work chamber depth. With 9" chamber depth, many small tools needed in the shop can be hardened, tempered or annealed.

Huppert No. 22 Deluxe

The standard equipment of the No. 22 Deluxe is the new Huppert Automatic precision control, multi-insulation, 2 indicator lights, one for "On" and the other for continuous throttling action of the automatic control. Having a higher heat-range than the No. 22 a larger variety of tools can be hardened and tempered.



3 Heat Ranges: 0°—500° F.
500°—1000° F. 1000°—1600° F.

Inside Dimensions:

4½" wide, 3¾" high, 9" deep.

Overall Dimensions:

12" wide, 14" high, 19" deep.

Operates on 110 volts A.C. or D.C. with maximum load of 1700 watts, minimum load of 400 watts. Net weight 44 lbs.

Huppert No. 22

Price — including Pyrometer
\$88.00

F.O.B. Factory

★

Inside Dimensions:

4½" wide, 3¾" high, 9" deep.

Overall Dimensions:

12" wide, 14" high, 19" deep.

Operates on 110 volts A.C. only. Maximum current consumption 1600 watts. Controlled heat range from 325° to 1800° F.

Huppert No. 22 Deluxe

Price — including Pyrometer and automatic control — \$110.00

F.O.B. Factory

Am

Huppert No. 5

This furnace is a sturdy, accurate, long life unit with above average versatility and range of application. It has a built in seven-point supplementary control within each of its three heat-ranges. It is the gunsmith favorite, as most of the needed chamber-reamers, special drills, sizing dies, springs, firing pins, hammers, chisels etc. can be heat-treated. Huppert's multi-insulation makes this furnace ideal for annealing of tools, dies and brass shells for resizing.

Huppert No. 5 Deluxe

This model's balanced Input Controller gives it a decided advantage over the regular No. 5 furnace.

The Automatic Control is very important in heat-treating of steels requiring slow preheating to a given low temperature before the full power can be turned on for the higher temperature. There is no worrying about over-heating of any tools or workparts, within the heartrange and chamber capacity of this furnace.

★



3 Heat Ranges:
0°—800° F.
800°—1400° F.
1400°—1900° F.

Built-In 7 Point Supplementary Control . . . gives seven stages of control within each of the 3 heat ranges.

Inside Dimensions:

4½" wide, 3¾" high, 9" deep.

Overall Dimensions:

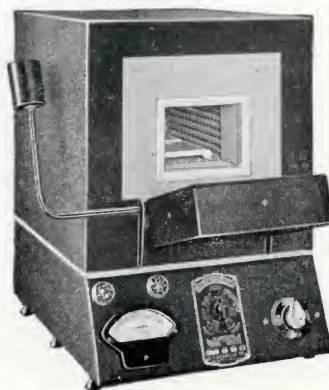
17" wide, 19" high, 23" deep.

Operates on 110 volts A.C. or D.C. with maximum load of 1700 watts, minimum load of 400 watts. Net weight 110 lbs.

Huppert No. 5

Price—including Pyrometer
\$135.00

F.O.B. Factory



Inside Dimensions:

4¾" wide, 3¾" high, 9" deep.

Outside Dimensions:

17½" wide, 20¼" high, 18¾" deep.

Control any temperature between 250° to 1900° F.

Operates on 115 volts A.C. only. Maximum load 1750 watts. Net weight 112 lbs.

Huppert No. 5 Deluxe

Price—including Pyrometer and automatic control — \$172.00

F.O.B. Factory

Huppert No. 10

This model has found wide acceptance in toolshops and laboratories, where heavier workparts require a larger chamber, and by manufacturers who during production slowdowns find it less costly and time saving to heat-treat their small tools and dies in this furnace, than to warm-up a large production unit.

Specifications**2 Heat Ranges:**

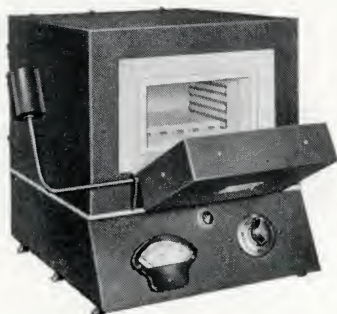
Low 0°—1000° F.
High 1000°—1950° F.

Inside Dimensions:

8" wide, 4" high, 6" deep (2" throat additional).

Overall Dimensions:

20" wide, 21" high, 21" deep.

**Huppert No. 10**

Price—including Pyrometer

\$170.00

F.O.B. Factory

Huppert No. 10 Deluxe

Being equipped with the new Huppert Automatic Control, 3 heat ranges, 2 pilot lights for "On" and continuous operation, makes this model a decided improvement over the No. 10. The low current consumption—given in the specification—for this size of furnace, is only possible through Huppert's multi-insulation.

Huppert's Mighty Midget

Here is the newest and smallest precision furnace in the Huppert Line. Yet, any temperature from 200° to 1750° F. may be set and automatically maintained on the line. To the gunsmith, hand-loader and experimenter pressed for space and limited in available electric power, this is "The Furnace." Plugs into any light outlet, needs only a 8½" by 10½" space on your bench, and when finished with the job, you put the furnace out of your way.

Pins, sears, hammers, links and many more parts have to be made and require hardening, doing the heating with a gas flame is always a gamble, with the odds against you, and you get stomach ulcers from worrying about "that spring being right." With this furnace in your shop, hardening and tempering is easy, no worries as you know that the spring is right.

Specifications**Inside Dimensions:**

3" x 3" x 3"

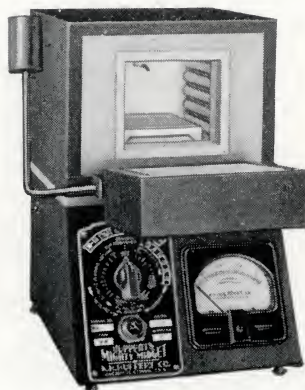
Outside Dimensions:

8½" x 10½" x 8½"

Operates on 110 volts A.C. only.

Controlled temperature from 200° to 1750° F.

Maximum load 500 watts. Net weight 11 lbs.

**Huppert Mighty Midget**

Price—including Pyrometer
and automatic control \$65.00

F.O.B. Factory

**Specifications****Inside Dimensions:**

8" wide, 4" high, 6" deep.

Overall Dimensions:

19¼" wide, 18½" high, 18½" deep.

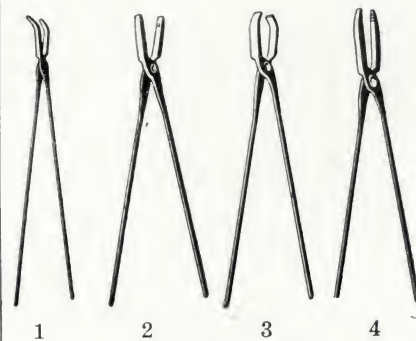
Control any temperature between 250° and 1950° F.

Operates on 115 volts A.C. only.
Maximum load 2000 watts. Net weight 165 lbs.

Huppert No. 10 Deluxe

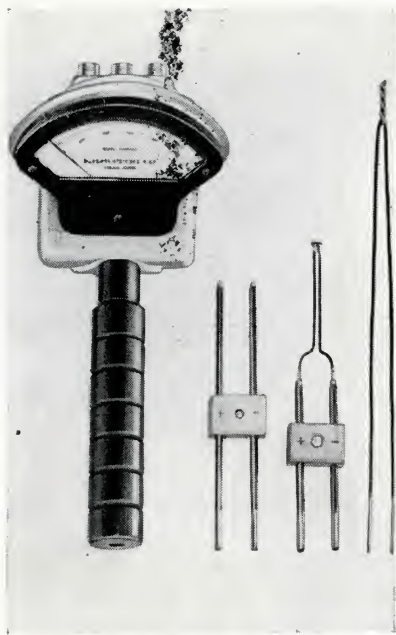
Price—including Pyrometer and
automatic control — \$215.00

F.O.B. Factory

**Furnace Tongs**

The illustrated special tongs are for small parts as being handled in the bench furnaces. They are made from ¼" stock and are about 15" long.

Prices Nos. 1 & 2 each \$2.50
Nos. 3 & 4 " 3.25



Pyrometers

Portable Pyrometers

The difficulty, guessing the right temperature by heat-colors on parts heated in the forge or over the flame, is known to every gunsmith and mechanic.

To prevent costly wastage in heat-treating, bullet-casting, salt-baths and salt-bluing, the exact temperature has to be known, and it can be known by using a pyrometer. The Huppert portable pyrometer, has dual scale range 0—1000 F. and 0 to 2000 F. and can be equipped with lance-, prod-and silver disc type thermocouples. Manual cold end adjustment is provided to compensate for temperature differential between the hot junction (tip of thermocouple) and the cold junction (within the meter itself).

Use of the low scale is accomplished by inserting the (—) wire of the thermocouple in the right (—) terminal at the end of the case and (+) wire into the center of (+) terminal and the high scale is employed by the use of the left (—) terminal and the center (+) terminal. The prod type thermocouple is being used for checking the surface heat of tools, sheet metals, castings, engine heads bearings, billets etc.

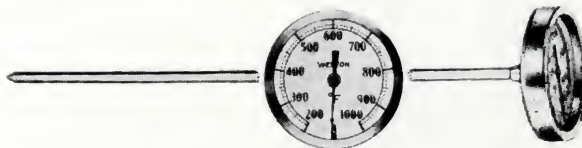
The lance type thermocouple is being used in metal refining, melting non-ferrous metals, bullet casting, remelting, cyaniding, salt and oil baths. The silverdisc thermocouple is being used for hot surface readings, regardless whether it is metal, rubber composition or plastic, without marring the surface.

Price of the instrument, including the 3 types of thermocouples. Price \$45.00



Wall Mounting

The sensitive pyrometer movement, of the portable pyrometers can be had for convenient wall or panel mounting for such applications that do not require portability such as ovens, furnaces etc. Price \$20.00



Thermometer Gauge

For the gunsmith to measure the temperature of tempering baths, salt-bluing solutions, etc. or for the bullet caster to have the molten metal at the right heat and for many laboratory and every day uses, this sturdy thermometer is the ideal instrument. Its circular dial and pointer method of measuring temperature permits the use of easily read, widely spaced scale markings. Completely sheathed in stainless steel and with its shatterproof glass, it is exceptionally rugged. It is not subject to the many breakage hazards of ordinary thermometers and with reasonable care will retain its guaranteed accuracy of within 1% indefinitely. For accurate measurement it is necessary to insert 2" or more of the stem in liquids and 4" or more in gases.

Specifications:

Model 2261: Head 1 3/4" diam. Stem 1/8" thick, 8" long.

Range 50 to 300° F.	each \$7.50
50 to 400° F.	7.50
50 to 500° F.	7.50
0 to 200° C.	7.50

Model 2221: Head 3" diam. Stem 1/4" thick. Range 200 to 1000° F. Stem length 6"

each \$26.50
200 to 1000° F. Stem length 9"
each \$28.25



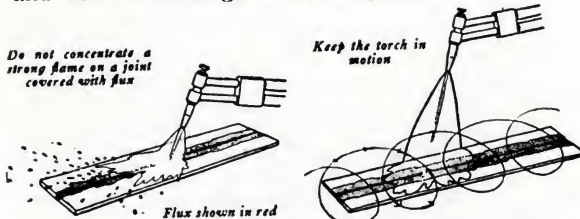
Plain Drilled Pipe Burners

For heating bluing tanks—salt or hot solution process—these burners are ideal as the whole length of the tank is evenly heated. They are complete with plain air-mixer. When ordering specify whether for natural, mixed, artificial or bottled gas.

Pipe diam.	Flame length	Overall length	Price
3/4"	24"	32"	\$7.25
3/4"	30"	38"	7.90
1"	36"	46"	9.50

Silver Solder

Easy-Flo, a recently developed silver solder is free flowing at 1175° F. which is the lowest melting point of any brazing alloy having a high degree of strength and ductility. Easy-Flo brazes both ferrous and non ferrous metals; iron, steel, stainless steel, monel metal, everdur, German silver, copper, brass, bronze, nickel, copper and chrome nickel alloys. Its low melting temperature insures against damage to the physical properties of the metals joined. Making strong joints of tensile strength from 40,000 to 60,000 lbs. depending on the metals joined makes it the ideal silver solder for the gunsmith. It can be used extensively in repairing of triggers, hammers, tangs, levers, guards, slides, etc. and in brazing of ramps, sight bases, swivels, drills to oiltubes and many other off jobs. Easy-Flo requires on all brazing jobs a flux, and for all brazings use Handy-Flux.



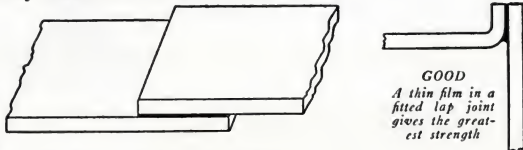
Instructions

Cleaning—Parts must be clean. Remove dirt or grease mechanically or chemically.

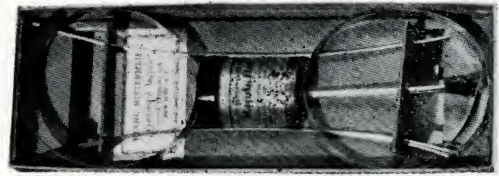
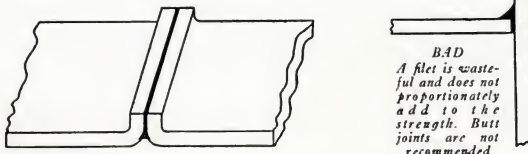
Fitting—The edges of a joint should be smooth and fit tight. Only a film of silver solder or brazing alloy is needed to give strong, sound joints. It is wasteful to use it as a filler. Because proper tolerances are so important in making sound joints, it is advisable to hold the work in jigs during the heating operation.

Fluxing—Proper fluxing is important. Regardless of the type of flux, it is desirable to use it in paste form and apply the flux to the work with a brush. Dipping in liquid flux may not give a thorough coating. Cover all of the joint and the solder itself. This is to protect the parts against oxidization, to absorb oxides formed while pre-heating and to aid the flow of the solder or brazing alloy.

Pre-Heating—Slowly heat the joint and surrounding metal before soldering. Pre-heating adjoining parts limits heat radiation away from the joint itself. Lack of flux or insufficient heat may cause balling of the solder.



Sil-Fos Lap-shear Joints are stronger and preferable to butt joints



Brazing Kit

This Brazing Kit contains Easy-Flo silver solder in strips and wire, Handy-Flux and Brush. It has been made up to have a complete brazing kit for the small shop, amateur gunsmith, tinkerer, experimenter and to introduce Easy-Flo and Handy-Flux into the larger repair shop using considerable brazing alloy.

Price per Kit \$1.50

Easy-Flo is carried in stock in strips .005 x 1/2" and .010 x 1/4"; in wires 1/32" and 1/16".

Price per ounce \$1.00

Handy-Flux is available in 1 oz. jar. at \$.40 and in 1/2 lb. jar at \$ 1.20

Soldering Blocks

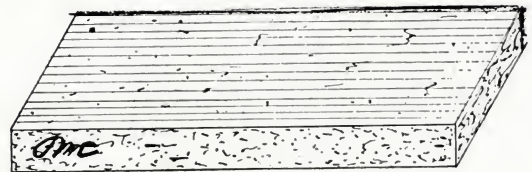
Charcoal



Charcoal Soldering Blocks are superior to asbestos for many kinds of work. They absorb and retain the heat from the torch and the article soldered is heated evenly all around. To prevent trouble-some sparks which occur when ordinary charcoal is used, these blocks have been chemically treated. They are very durable, dense and tough.

Sizes and Prices

3 1/4" x 2 1/4" each	\$.40	2 1/2" x 6 3/4" each	\$.90
4 3/4" x 3"	.75	4" x 7"	1.25



Asbestos

Asbestos blocks are used for retaining the heat, to shield the work from draft and light, which helps to regulate the heat and judge the temper by color, and as a protective pad when placed between charcoal block and the bench.

Available in 2 grades, Millboard and Wood (which is extra hard and tough).

Size	Millboard	Wood
6" x 6" x 1/2"	each \$.30	\$.55
6" x 8" x 1/2"	.40	.65
6" x 12" x 1/2"	.55	.85
12" x 12" x 1/2"	.90	1.30



Chamber Cast Metal

Melting Temperature 163° F.

Pouring Temperature 212° F.

For proof casting of chambers, muzzles, bullet molds, sizing dies, etc., etc., it is necessary to use a casting-material with no or very little shrinkage.

Chamber Cast Metal, a newly developed low temperature alloy changes little in volume in passing from molten to its solid condition and shrinks but slightly in cooling from melting point to room temperature. Being a bismuth alloy it has the bismuth characteristic of expanding after cooling — the expansion equalizes the previous shrinkage — therefore it is the best metal for proof casting wherever the exact measurements are needed.

With a tensile strength of about 6000 lbs. and a Brinell hardness No. 10 it withstands rough handling and dropping without any danger of deforming or breaking the cast. Its low pouring temperature is not harmful to chambers or muzzles.

Simple to use: The ladle should be carefully cleaned of any particles of type metal or lead from previous use. Heat slowly and remove from source of heat as soon as it is fully melted. It can then be poured into the chamber or mold. Prepare the chamber by cleaning it and pushing a cotton wad through the chamber down the rifling to about $\frac{3}{8}$ " to $\frac{1}{2}$ ". Remove the casting — by chamber casts use a soft copper or fibre rod to prevent damage to the rifling — before it cools to room temperature. If allowed to become too cold it will grip the chamber or mold. Should that gripping take place, melt the cast by placing the barrel or mold in boiling water for a few minutes.

Chamber Cast Metal can be used over and over again and won't lose its characteristic as long as it hasn't been over-heated.

Chamber Cast Metal is superior to sulphur mixture in every respect.

Use Chamber Cast Metal for proof casting.

Price per pound \$2.00



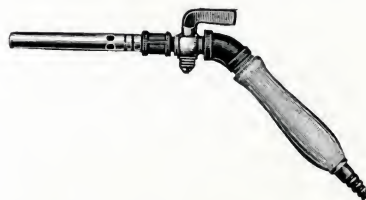
Kasenit

Kasenit is the most rapid and efficient compound for all surface hardening. It is non-poisonous, non-explosive and non-inflammable and eliminates the dangers of cyanide and other poisonous compounds. It gives a better case.

Kasenit can be used with equally good results on all classes of steel as well as cast, wrought or malleable iron. No special equipment or unusual methods are necessary, your smith's hearth, gas jet or blow pipe will do, or use more modern equipment. It melts under moderate heat spreading itself over the entire surface to be hardened, forming a shell all over, thus eliminating the danger of soft spots or any tendency to warp. Ordinary case is given in a few minutes and a deeper penetration is easily obtained by longer period of heating, because of its carbonaceous base and energizer — a special Kasenit feature. Instructions on how to use are printed on the can label. Surface harden your sizing-dies, pins, parts, etc. which are subjected to friction.

Price per pound \$2.00

Bunsen burners



This is a very handy portable torch, for sweating sight ramps barrel bands, ventilated ribs, and singeing of stocks, preheating etc.
Price \$5.50

When ordering burners, specify whether for natural, artificial or bottled gas.

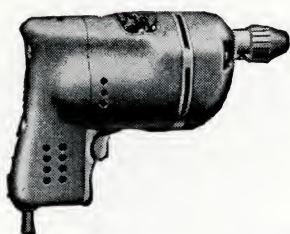


Laboratory Burner No. 14

The No. 14 is equipped with the Buzzer Automatic Blast Venturi Burner. They inject a greater amount of primary air at the mixing tube, hence a less amount of secondary air for combustion is required. An intense heat is obtained.

Price

\$6.95



Portable Electric Drill

1/4 Inch Capacity in Steel

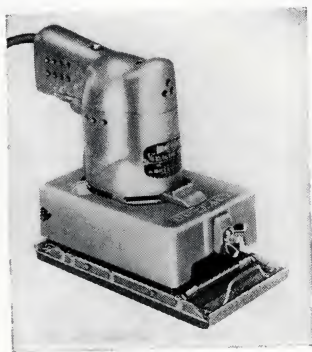
There are many drilling jobs in a gun shop, which can be done better and faster—less preparing for set-ups—than with the regular drill press.

In inletting and sanding of gunstocks, polishing and bluing of actions, grinding of parts and tools, this portable electric drill speeds up the work and eliminates much hard hand work.

To the amateur, tinkerer, home owner and farmer it is indispensable in building and repairing of fixtures, furniture, electrical, heating and plumbing appliances, garden tools and farm machines, tractors and cars. It drills all materials, drives brushes and sanding pads.

The Home Utility 1/4" drill is made by Black & Decker. They are known for quality electric drills. The drill is equipped with a positive locking hex-key chuck. With each drill comes a drawing showing all parts of the drill and instructions on how to service, clean, grease and oil it.

Price of this powerful portable drill is only \$22.95.

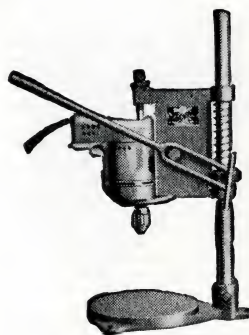


Du-Fast Sander and Polisher

An oscillating attachment for the H-U 1/4" drill. The Du-Fast sander and polisher is unequalled in producing quick, easy, fine finishes at low cost. Requiring no special skill to use.

In the shop and home it offers an exceptionally convenient method for sanding, rubbing, waxing, polishing of gunstocks, cabinets, desks and furniture; for removing of rust, polishing and lapping of metal parts and polishing of all materials and surfaces. For routine and all special sanding operations particularly in finishing, the Du-Fast sander and polisher is fast, safe and certain.

Du-Fast attachment, model BUHU 1, with sponge rubber pad, 3 sheets sandpaper and polishing cloth (drill not included) only \$14.95.

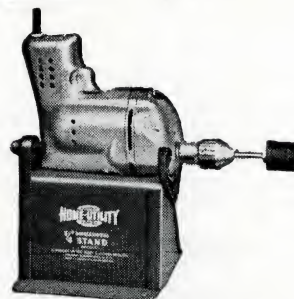


Bench Stand

For 1/4" Portable Drill

The bench stand is a time saving, work improving addition to your drill-equipment. It converts your portable drill into a drill-press, frees one hand to guide work and lubricate drilling.

Price of Bench Stand (drill not included) \$14.95.



Horizontal Stand

For 1/4" Portable Drill

To permit the H-U 1/4" drill to be clamped horizontally on a bench, this new stand is provided. Both hands are free to apply work in using grinding wheels, wire wheel brushes, buffing wheels and abrasive accessories. This stand eliminates the use of a grinding or polishing head and special motor.

Price of Horizontal Stand (drill not included) \$3.35.



Accessory Kit

To increase the versatility of the H-U 1/4" drill and to meet requirements in the shop, in handicraft and on lighter repair work, the accessory kit has been developed. All arbors fit the drill 1/4" chuck and the drill may be used portable or mounted in the horizontal stand. Numerous abrasive, cleaning and polishing jobs are made easy by the use of this kit.

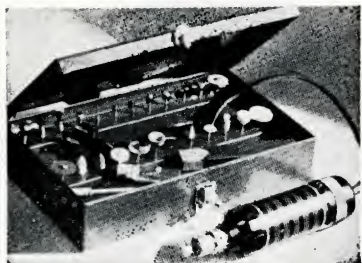
The abrasive kit includes an assortment of 24 abrasive bands, 8 discs, 3 rolls and 6 arbors to accommodate these abrasives.

Price of the complete kit \$6.95.



Handee

Handee, the tool of 1001 uses, portable electric tool application eliminates tedious hand work, and was originated by Chicago Wheel & Mfg. Co. This versatile unit is recommended for the small jobs in a gunshop, machine shop, experimental reaches the hard-to-at-get-places. You can grind, drill, rout, carve, saw, sand, polish, cut and engrave metals, wood, glass and synthetic materials, in fact, anything that can be machined. The Handee is essential to the professional gunsmith and mechanic with a complete workshop as it is to the amateur who uses the kitchen table as a workbench. It is a practical tool for everyone, from novice to the expert craftsman and not one should be without it.



Ultra Deluxe Handee Kit

You can really do things with this smooth, controlled 12 oz. Powerhouse at your fingertips . . . perfectly balanced to fit your hand like a pencil. With the large assortment of accessories supplied in this kit you are ready to tackle most of the grinding, polishing and routing jobs you have to do, and are within the capacity of this powerful tool.

Specifications: Length overall, including chuck, 6". Extreme diameter, 1 5/8". Weight, 12 ozs. Speed 25,000 r.p.m., ample for all requirements. Motor, universal type, operates on any 110 volt A.C. or D.C., 25 to 60 cycle current. Brushes easily replaceable. Ball bearing construction, precision ground, specially selected triple crease-sealed. Interchangeable spring collet chuck.

Ultra Deluxe Handee, equipped with 1/8" collet, in a steel carrying case, with 25 accessories only \$27.50

De Luxe Handee, without accessories only \$19.95

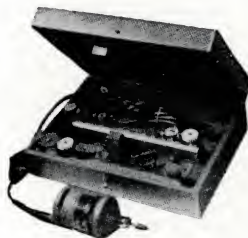
Handee Model "44"

The finest lightweight portable, electric grinder ever developed. With over 44 new, unusual, outstanding time and money-saving features. Light enough in weight to be easily handled with pencil-point precision but powerful and perfectly balanced. Features that contribute to the versatility



and efficiency of the Handee "44" are . . . the independent smoothly-operating grinding spindle built into the handpiece. An entirely new method for accurately chucking accessories giving outstanding precision for delicate and precise work. Specifications: Handee "44" comes complete in a fine wood carrying case, with the finest accessories. Speed 20,000 r.p.m. with a higher work speed than any tool of its weight. Operates on any 110-120 volt A.C. or D.C., 25 to 60 cycle electric current. Equipped with 1/8" and 3/32" collet. Length 8 1/2", weight 2 lbs.

Price complete with accessories as illustrated only \$42.50.



Handee Model 85

Is the latest addition to the Handees. Has more power, more speed more all 'round useability, than any tool of its type. Perfectly balanced, light enough to be easily handled with accuracy. Tornado Ventilation keeps housing comfortable cool, to the hand, for constant work. Specifications: 20,000 r.p.m. under load, interchangeable spring collet chuck with 1/8", 3/32" and 1/16" capacity, weight 2 lbs. 110 volt A.C. or D.C., 25 to 60 cycle. This Handee Workshop has many useful accessories for the amateur and professional artisan. Packed in a handsome wooden case.

Price, complete as illustrated \$29.95

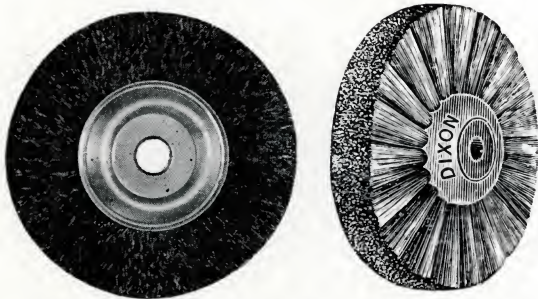
Model 85 without accessories only \$19.95



Hi-Power Grinder

Built to do tough jobs, the new Hi-Power grinder and router has more than enough power and performance to do the toughest of grinding, polishing and routing jobs. To the stockmaker it is the ideal router. Using one of the many burs or rotary rasps (illustrated in this catalog)

much of the hard hand work in linletting and shaping of rifle and shot gun stocks can be done faster and with less effort. Specifications: Size, 11 inches overall including Jacobs Universal Chuck. Weight 5 lbs. 10 ounces. 15,000 r.p.m. constant work speed. Ball bearing independently mounted, forced ventilated hand piece, ball bearings lubricated for life. Universal Jacob chuck $\frac{1}{4}$ " capacity, 3 Chicago mounted wheels, 1" x 1" drumsander, chuck key, wheel dressing stone, wooden case. Price complete \$49.95



Steel Wire Brushes

The illustrated circular and hand brushes are obtainable in different wire thicknesses. The heavy wire (gauge 33) brushes are used for polishing, heavy rust removing and general cleaning jobs. The fine wire (.003" to .005") brushes are principally used (during the bluing process) for carting off the rust and burnishing the steel, which adds to the appearance of the blued gun, and for the cleaning and polishing of soft metals. The circular brushes are for bench grinders and portable power tools and come with wood or metal center. Those with the metal center are one row brushes with an approximate $\frac{1}{2}$ " face. Any face width can be built up by merely adding the necessary sections. All brushes have a $\frac{1}{2}$ " arbor hole. The hand brush is used in places which can't be reached with the circular brush and by the fellow having no power tools available.

Metal Center

4" Diam. .005" Wire 1 Row -about $\frac{1}{2}$ "F- ea. \$1.25
6" Diam. .003" Wire 1 Row -about $\frac{1}{2}$ "F- ea. 2.25
6" Diam. .005" Wire 1 Row -about $\frac{1}{2}$ "F- ea. 1.50
6" Diam. .011" Wire 1 Row -about $\frac{1}{2}$ "F- ea. 1.25

Wood Center

6" Diam. .003" Wire 4 Rows -about 1"F- ea. \$4.75
6" Diam. .005" Wire 4 Rows -about 1"F- ea. 3.75
6" Diam. .005" Wire 6 Rows -about 1 $\frac{1}{2}$ "F- ea. 5.00



Hand Brush

3 Rows .004" Wireeach \$1.75
4 Rows .004" Wireeach 2.35



Vibro-Tool

The Vibro-Tool is one of the most versatile craft tools yet developed. It is ideal for performing a limitless number of both complicated and simple tasks in the workshop and at home. Working on the principle of vibration at the rate of 120 strokes per second, the Vibro-Tool adds power to your skill, with little effort, it enables you to produce craft work in a fraction of the time ordinarily required.

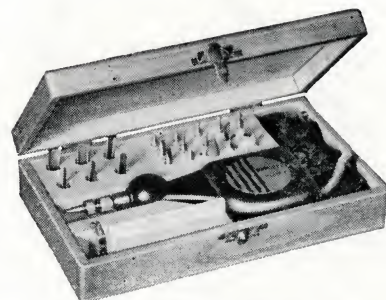
It is an inexpensive tool for matting receivers, bolt handle knobs, revolver back straps, triggers, front sight ramps and wherever matting will help to improve the hold or appearance of a gun or breaks the reflection of light. Use it for marking identifications on guns and parts, to engrave owner's initials and your trademark on remodeled or new guns.

Besides marking and matting of steel, use it for pinning, hammering, embossing, woodcarving, leather tooling and numerous other crafts.



The Vibro-Tool is available in several sets. Vibro-Tool Marking Kit with tantalum carbide point for all-purpose marking.

Price \$7.50



Vibro-Tool Deluxe Kit, includes 23 attachments, sharpening stone and instruction booklet and comes in a nicely finished, well made wooden chest.

Price complete \$14.95



Flexible Shaft Machine

The illustrated Foredom's new model 100 complete motor-driven flexible shaft machine is powered by husky 1/25 HP motor. Operates on both A.C. and D.C. Finest quality flexible shaft equipped with silenzer feature to eliminate chatter and vibration. Shaft measures 35" from motor to tip of handpiece. Precision-made, pencil-size handpiece is equipped with genuine Chrysler semi-oiless bearings. Comes with removable 1/8 collet. Price complete only.....\$17.75

Flexible Shafts — Without Motors

Available in two qualities, Presto-Flex and Flexade as listed. Excellent for amateur gunsmiths hobbyist, home craftsman and industrial users. Quickly attachable to drill press, electric drill or motor, converting same into an efficient flexible shaft tool.



Presto — Flex

Although priced amazingly low, this tool is thoroughly well made and fully measures up to Foredom's Quality standards. Handpiece is true running and measures only 1/2" x 4 3/4". Supplied with 1/8" collet if not otherwise specified.

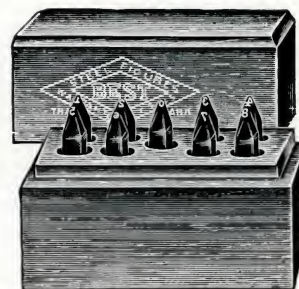
Price—coupling extra \$5.95
" —coupling50



Flexade-Shaft

The Flexade has various refinements which cannot be incorporated in the lower priced Presto-Flex. Shaft assembly is extra flexible and runs in a metal liner covered with tough, long-lasting Neoprene which is impervious to oil and grease. This shaft is available in several models, but only Model 40A is carried in stock as this model is the most useful one having 2 collets 1/8" and 1/4".

Price of Model 40A with both collets..... \$20.20
Coupling—Specify size needed50



Steel Letters and Figures

To identify guns, parts, tools, etc., they should be stamped with the owner's name or initials or with a serial number. It pays to stamp your initials on remodeled guns as proof, that the gun was made or remodeled by you. Stamps are available in two grades.

Hand cut—Gothic Face: Letters and figures are made of the finest grade of tool steel. Face of characters are cut by hand, heads are hardened and tempered with utmost care.

Machine made—Roman Face: Characters are formed of a good grade tool steel by a special developed machine process, producing sharper, cleaner faces than usual.

HAND CUT-GOTHIC FACE

Size	Letters (set)	Figures (set)	Each Char.
1/16"	\$11.75	\$3.75	\$.50
3/32"	11.75	3.75	.50
1/8"	11.75	3.75	.50
5/32"	12.60	4.20	.55

MACHINE MADE—ROMAN FACE

Size	Letters (set)	Figures (set)	Each Char.
1/16"	\$6.00	\$2.00	\$.30
3/32"	6.00	2.00	.30
1/8"	6.00	2.00	.30
5/32"	6.75	2.25	.35



X-acto Knives

The X-acto knives and cutters are tools for the hobbyists and modelmakers working on soft wood, linoleum and other easy to cut materials. Knives and cutters are of high carbon steel, hardened and ground to a fine surgical edge. Following single knives and sets are listed for their general usefulness in the shop and home.

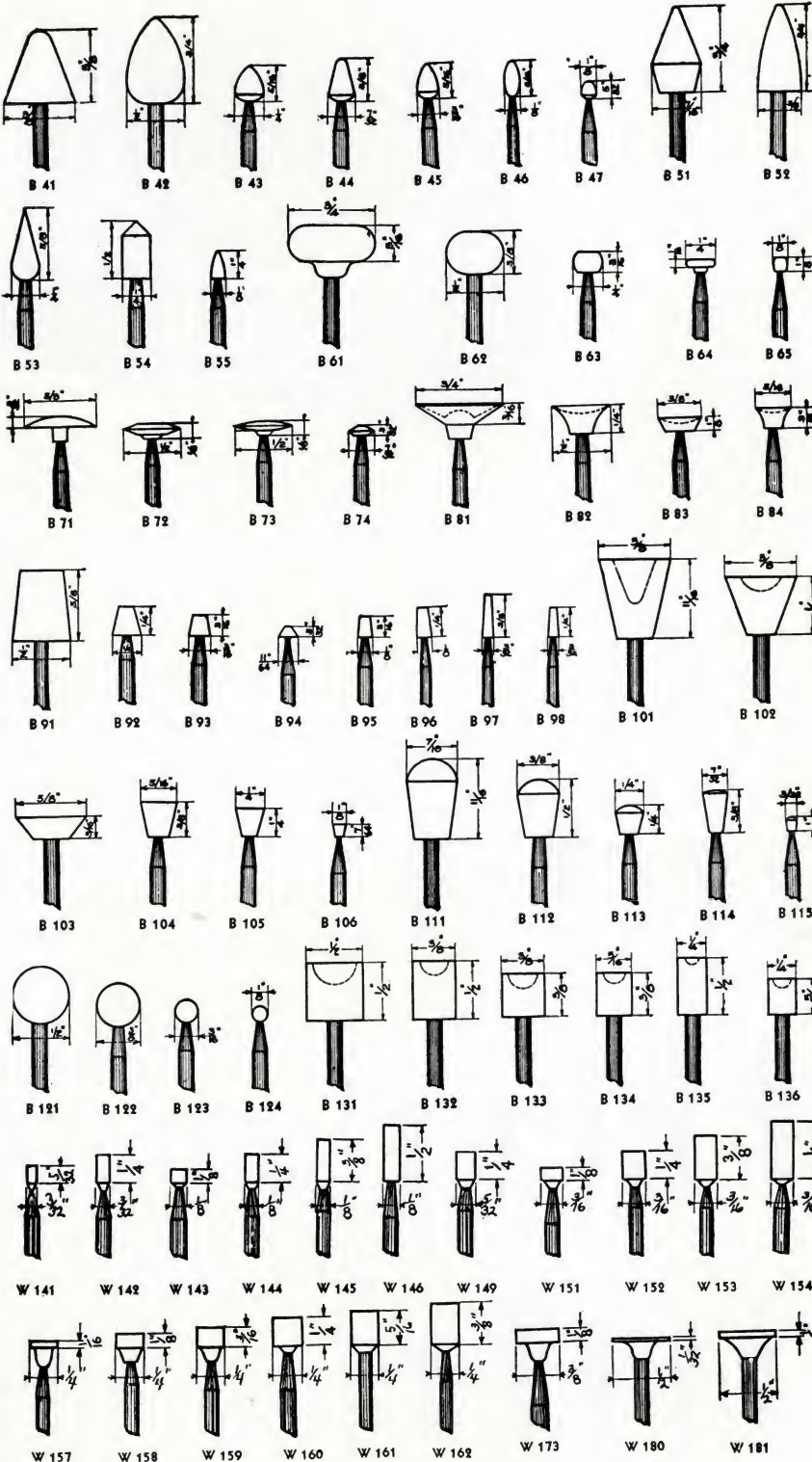
No. 1 and No. 2 knives, each	\$.60
No. 5 knife	1.20
Assortment of 5 blades for Nos. 1, 2 and 5	.35
No. 51 Set. No. 1 knife with 5 blades	1.20
No. 52 Set. No. 2 knife with 5 blades	1.20
No. 62 Set. No. 1 & 2 knives, 10 blades	2.40
No. 82 Set. Nos. 1, 2 & 5 knives, 8 extra blades, in wooden chest	4.20
No. 83 Set. Nos. 1, 2 & 6 knives, 8 extra blades, in a wooden chest	6.00

Mounted Grinding Wheels and Points

The illustration shows 74 different shapes and sizes of mounted wheels and points to do your grinding, cutting, engraving and polishing of irregular and plain surfaces. An assortment of these wheels and points will take care of all the grinding operations on sight and telescope bases, reloading tools and dies, revolvers, pistols, rifles, shotguns, removing broken screws and taps, countersinking holes, shaping butt plates and pistol grip caps, carving pearl revolver grips and on many other jobs.

Be prepared for the next job by ordering an assortment now.

All wheels and points mounted on $\frac{1}{8}$ " shank.



No.	Each	No.	Each
B 41	\$.80	B 105	.65
B 42	.75	B 106	.65
B 43	.70	B 111	.75
B 44	.70	B 112	.70
B 45	.70	B 113	.65
B 46	.70	B 114	.70
B 47	.65	B 115	.65
B 51	.75	B 121	.70
B 52	.75	B 122	.70
B 53	.75	B 123	.65
B 54	.70	B 124	.65
B 55	.65	B 131	.55
B 61	.75	B 132	.55
B 62	.70	B 133	.55
B 63	.65	B 134	.55
B 64	.65	B 135	.55
B 65	.65	B 136	.55
B 71	.70	W 141	.50
B 72	.65	W 142	.50
B 73	.65	W 143	.50
B 74	.65	W 144	.50
B 81	.70	W 145	.55
B 82	.65	W 146	.55
B 83	.65	W 149	.50
B 84	.65	W 151	.50
B 91	.75	W 152	.50
B 92	.65	W 153	.55
B 93	.65	W 154	.55
B 94	.65	W 157	.50
B 95	.65	W 158	.50
B 96	.65	W 159	.50
B 97	.70	W 160	.50
B 98	.65	W 161	.55
B 101	.80	W 162	.55
B 102	.75	W 173	.50
B 103	.70	W 180	.50
B 104	.70	W 181	.50

Burs

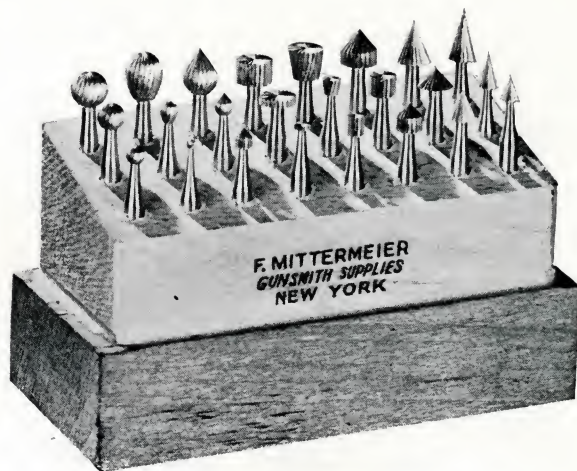
The usefulness and importance of burs in repairing, remodeling and inletting of shotgun and rifle actions, engraving, carving, model and experimental work, is being more and more recognized in progressive shops and by amateurs and tinkers.

Complicated jobs which ordinarily require many hours of painstakingly work, can be done better and faster by using burs. The burs are made of tungsten steel, are properly heat treated and can be used in wood, mild steel, ivory, mother of pearl and plastics.

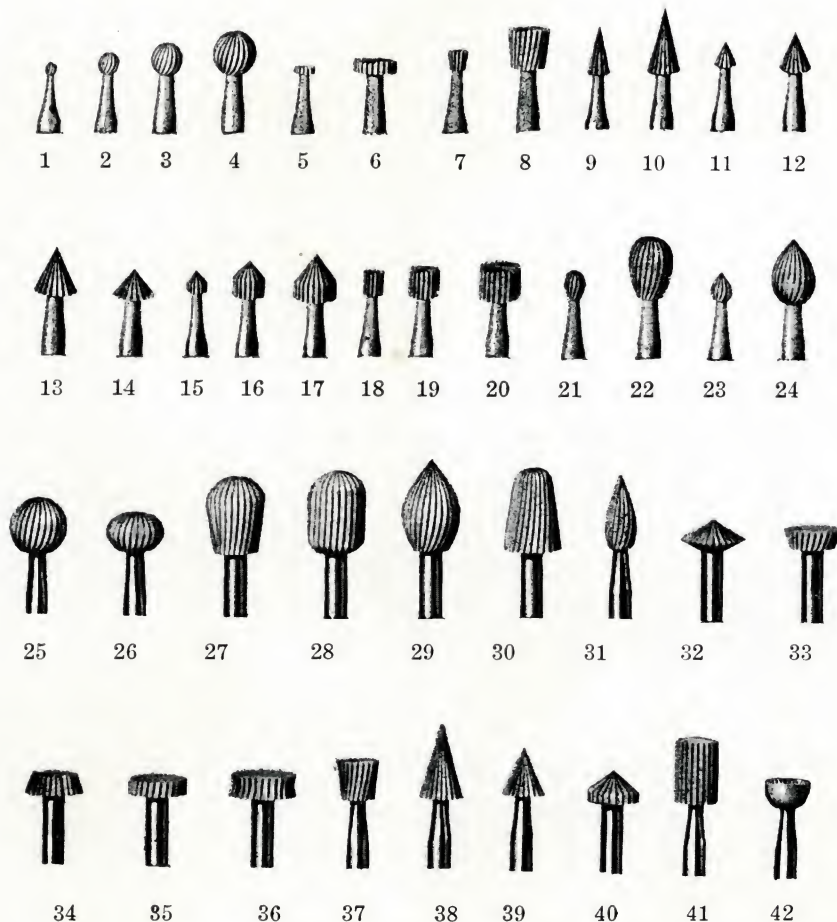
The shank diameter is $\frac{1}{8}$ " with approximate $1\frac{3}{8}$ " length and fit any handmotor with chuck attachment like Hand-ee, Moto-Tool, Dumore, hand-drill and bench-drill-presses. The most practical shapes and sizes are illustrated below, and can be had single and in sets. The sets come in boxes, which have a separate space for each bur to prevent damage to the cutting edges.

The number 1 set consist of 24 burs, as numbered from 1 to 24, are fine cut and the price is \$13.50.

The number 2 set, consist of 18 burs, number 25 to 42, are fine cut and the price is \$14.50.



The illustrations of the burs show their actual size, except that the shanks are longer.



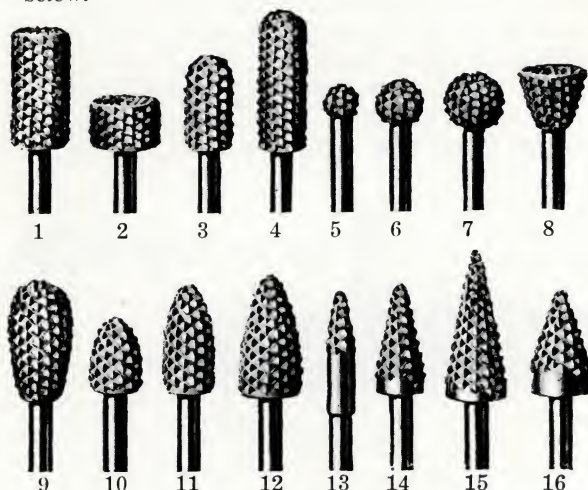
No.	Each
1	.....\$ .30
2	..... .35
3	..... .40
4	..... .45
5	..... .35
6	..... .50
7	..... .35
8	..... .50
9	..... .35
10	..... .40
11	..... .35
12	..... .40
13	..... .45
14	..... .45
15	..... .35
16	..... .40
17	..... .45
18	..... .35
19	..... .40
20	..... .45
21	..... .35
22	..... .50
23	..... .35
24	..... .50
25	..... .65
26	..... .65
27	..... .75
28	..... .65
29	..... .65
30	..... .65
31	..... .40
32	..... .75
33	..... .65
34	..... .65
35	..... .65
36	..... .75
37	..... .50
38	..... .50
39	..... .45
40	..... .55
41	..... .45
42	..... .45

Rotary Rasps

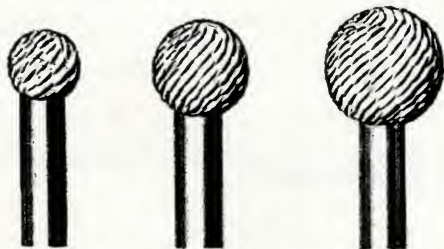
Rough inletting, shaping of rifle and shotgun stocks, etc., can be speeded up and done easier by using hand cut rotary rasps.

Let your drill press, milling machine, grinding head, flexible shaft or whatever you have do the rough rasping and save your elbow grease for the finishing and fine cut.

Made of H.S. steel they come in coarse and fine cut, shank diam. $\frac{1}{4}$ "; rasp dimensions are listed below.



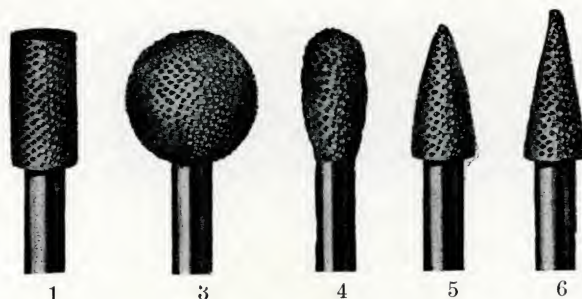
No.	Diam.	Length of Cut	C.C.	F.C.
1	$\frac{11}{16}$ "	$1\frac{1}{4}$ "	\$2.35	\$2.95
2	$\frac{3}{4}$ "	$1\frac{1}{2}$ "	2.20	2.80
3	$\frac{1}{2}$ "	1"	2.10	2.65
4	$\frac{1}{2}$ "	$1\frac{1}{2}$ "	2.35	2.95
5	$\frac{3}{8}$ "	$\frac{3}{8}$ "	1.75	2.20
6	$\frac{1}{2}$ "	$\frac{1}{2}$ "	2.00	2.50
7	$\frac{5}{8}$ "	$\frac{5}{8}$ "	2.20	2.80
8	$\frac{3}{4}$ "	$\frac{5}{8}$ "	2.20	2.80
9	$\frac{5}{8}$ "	$1\frac{1}{4}$ "	2.60	3.25
10	$\frac{1}{2}$ "	$\frac{3}{4}$ "	1.90	2.35
11	$\frac{1}{2}$ "	$1\frac{1}{8}$ "	2.00	2.50
12	$\frac{5}{8}$ "	$1\frac{1}{4}$ "	2.60	3.25
13	$\frac{5}{16}$ "	$\frac{5}{8}$ "	1.75	2.25
14	$\frac{1}{2}$ "	1"	2.00	2.50
15	$\frac{5}{8}$ "	$1\frac{1}{2}$ "	2.70	3.25
16	$\frac{5}{8}$ "	1"	2.10	2.65



Muzzle Crowning Rotary Files

These special rotary files are in 3 sizes and each size in coarse and fine cut available.

Diam.	C.C.	F.C.
$\frac{3}{8}$ "	\$1.50	\$1.85
$\frac{1}{2}$ "	1.80	2.20
$\frac{5}{8}$ "	2.00	2.45



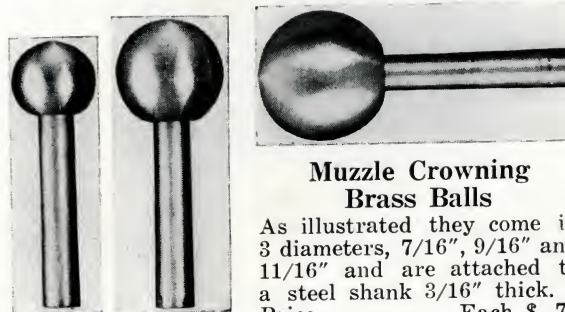
Stockmaker and Carver Set

This set of smooth cut rasps is being used for removing excess material and smoothing of rough surfaces prior to final finishing.

The set consists of 6 rasps. No. 2 rasp is not illustrated.

Shank diam. $\frac{1}{4}$ ". Rasp dimensions are listed below.

No.	Diam.	Length of Cut	Price
1	$\frac{3}{8}$ "	$\frac{3}{4}$ "	\$1.25
2	$\frac{5}{8}$ "	$\frac{5}{8}$ "	2.35
3	$\frac{3}{4}$ "	$\frac{3}{4}$ "	2.60
4	$\frac{3}{8}$ "	$\frac{3}{4}$ "	1.50
5	$\frac{3}{8}$ "	$\frac{3}{4}$ "	1.50
6	$\frac{3}{8}$ "	$\frac{7}{8}$ "	1.50



Muzzle Crowning Brass Balls

As illustrated they come in 3 diameters, $\frac{7}{16}$ ", $\frac{9}{16}$ " and $\frac{11}{16}$ " and are attached to a steel shank $\frac{3}{16}$ " thick.

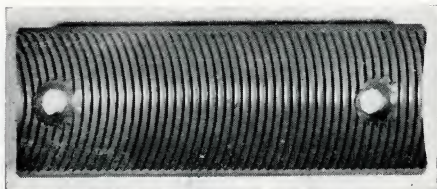
Price Each \$.75
Set of 3 2.00

Crowning of a muzzle can be best accomplished by using a rotary file to start the crowning and a brass ball for lapping and finishing.

Insert the shank of the needed rotary file — or corresponding one to the caliber of the bore — into chuck of a brace or breast drill and start filing until the sharp edge of the bore has been removed and a recess shows. Then use the next size of the brass balls, dip it into a mixture of oil and fine alundun or crystolon powder and start lapping the bore. Keep it up until the ball has a perfect bearing. Continue with the next larger size of the crowning balls till half of the barrel wall is rounded off. File the outer edge to a corresponding shape.

A muzzle crowned that way is perfect square with the bore and insures a true delivery of the bullet at the muzzle.

A set of these rotary files and crowning balls is indispensable in a well equipped gun repair shop. Order them and be prepared to do a fast and good job.



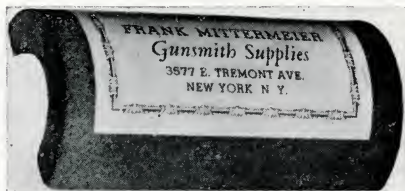
Barrel Draw File

Draw filing, working down and smoothing rough barrels can be accomplished now . . . better and in half the time than with the old striking method . . . by using the special Draw File.

The outstanding features of the Draw File are:

1. Its usefulness is not limited, it can be used on single and double barrel guns, on straight and taper barrels and close to fixed sight bases, ribs and places otherwise inaccessible.
2. Its concave shape means elimination of nearly all "flats" and through it doing away with most cross-polishing.
3. Its $3\frac{1}{2}$ " length allows a firm grip and for those preferring to mount it to a wooden handle there are two countersunk screw holes.
4. Its circular cut teeth cut fast and are spaced at the right intervals to prevent pinning and with it nasty deep scratches.
5. It's the greatest tool for working down and smoothing barrels without a lathe.

Price Each \$1.50



Draw Polisher

A new practical hand tool . . . designed and made . . . for draw polishing and draw lapping of barrels.

Made of rubber bound abrasive, they come in two grades. No. 1 to remove all cross polishing marks by draw polishing the barrel. No. 2 to achieve a high polished surface by final draw lapping.

They are flexible enough to bend together or expand to fit the dimensions of the barrel. That flexibility accounts for the greater area being polished with each stroke, than with the polishing stick. It prevents flats and eliminates further cross-polishing.

Being about $3\frac{1}{4}$ " long, $\frac{3}{8}$ " thick and with an inside diam. of 1" it can be used on all sizes and shapes of barrels of single and double barrel guns. On octagon and flat surfaced barrels use the convex side of the polisher. Like the draw file they work close to fixed sightbases, ribs and places otherwise inaccessible.

They can also be used as cross-polishers by turning the barrel in a lathe.

No. 1 is the gunsmith's best rust remover, just go over it a few times and the rust is gone.

Price: No. 1 for draw-polishing	\$.90
No. 2 for draw-lapping	.90
Set of two	1.75



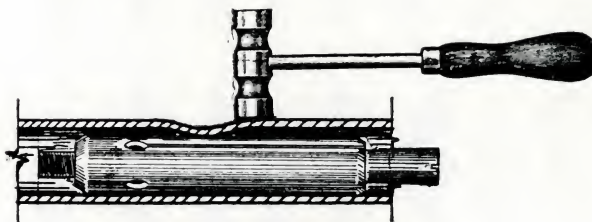
Expanding Dent Plug

This expanding dent plug has a center diameter of about .020" less than the standard diameter of the same bore. By turning the tapered screw it can be expanded to fit any over-sized bore.

They are made of bronze to prevent jamming or marring of the bore.

Made for following gauges 12, 16 and 20.

Price per dent plug	\$ 4.25
Set of 3 (one of each gauge)	12.00



Dent Removing

Expand the dent plug until it fits tight under the dent—use a wooden dowel to push the plug from the chamber down—then hammer with light blows around the edge of the dent. Those light blows will force the dented metal up; keep hammering until the dent is up or the plug comes loose. If the plug comes loose before the dent is up repeat the process of expanding the dent plug, pushing it under the dent and hammering around the edge till the dent is completely up. The hammering out process—where the dented metal is slowly hammered back into its original position—is the only safe way of removing dents. To use sheer force within the barrel to bring the dent up causes strain in the metal and sometimes will cause cracks, those minute cracks may not be visible to the eye, but will weaken the barrel at that spot.

By using expanding dent plugs, one eliminates the making or buying of expensive solid plugs, of which several are needed for each gauge.



File Card

It is important to clean a file always after a few strokes to prevent pinning, which reduces the cutting capacity of the file and causes sometimes deep scratches, which are hard to file out. A File Card as illustrated will clean small and large files thoroughly.

Price	Each \$.30
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Motor Attachments



Chuck, Round Socket

Smooth running, three jawed keyless chuck with arbor to fit around shaft of electric motor.

Chuck capacity $\frac{1}{2}$ " shaft $\frac{1}{2}$ " \$2.50
 Chuck capacity $\frac{1}{2}$ " shaft $\frac{5}{8}$ " 2.50



Work Arbors

These arbors fit standard motor shaft diameters. A longer threaded holding end is provided for wider wheels, $\frac{1}{2}$ -24 chucks and greater clearance from driving unit. Two flange nuts with facing ring to hold wheels in desired position on threaded shaft. Available in Right or Left hand threads, also holds the 1" and 2" sanding drums.

Arbor Part No.	Hole Size	Thread Size	Length	Overall Length	Price Each
105	$\frac{3}{8}$ "	$\frac{1}{2}$ -24	2 $\frac{1}{4}$ "	3 $\frac{1}{4}$ "	\$1.25
100	$\frac{1}{2}$ "	$\frac{1}{2}$ -24	2 $\frac{1}{4}$ "	3 $\frac{3}{8}$ "	1.25
101	$\frac{5}{8}$ "	$\frac{1}{2}$ -24	2 $\frac{1}{4}$ "	3 $\frac{7}{8}$ "	1.35



Wheel Arbors

Shorter arbors for heavy wheels. Made to fit standard motor shaft diameters. One machined flange nut and one machined washer both with facing ring to hold wheels accurately against arbor shoulder. Available in right or left hand threads. Holds our 1" and 2" sanding drums.

Arbor Part No.	Hole Size	Thread Size	Length	Overall Length	Price Each
109	$\frac{3}{8}$ "	$\frac{1}{2}$ -24	2"	3"	\$1.10
110	$\frac{1}{2}$ "	$\frac{1}{2}$ -24	1 $\frac{1}{2}$ "	3"	1.20
111	$\frac{5}{8}$ "	$\frac{1}{2}$ -24	1 $\frac{1}{2}$ "	3"	1.25



Head-Chuck Arbor

These arbors designed to fit standard electric drill chucks. The thin holding head eliminates the protruding nut of other types.

Arbor Part No.	Shank Dia.	Thread Size	Length	Overall Length	Price Each
119	$\frac{1}{4}$ "	$\frac{1}{2}$ -24	1 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	\$.85



Large Chuck Arbors

Shank is machined to fit standard electric drill chucks. Long $\frac{1}{2}$ " threaded holding shafts are provided with two flange nuts.

Arbor Part No.	Hole Size	Thread Size	Length	Overall Length	Price Each
121	$\frac{3}{8}$ "	$\frac{1}{2}$ -24	2 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	\$1.00
122	$\frac{1}{4}$ "	$\frac{1}{2}$ -24	2 $\frac{1}{2}$ "	1.00	



Small Chuck Arbors

Designed with shank to fit electric drill chucks. The threaded holding end permits the use of wheels and discs with $\frac{1}{4}$ and $\frac{3}{8}$ center hole. Two machined flange nuts hold vibration to the minimum. Right hand thread only.

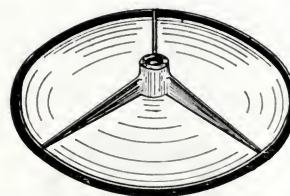
Arbor Part No.	Shank Dia.	Thread Size	Length	Overall Length	Price Each
130	$\frac{1}{4}$ "	$\frac{1}{4}$ -28	1 $\frac{1}{4}$ "	2"	\$.75
132	$\frac{1}{4}$ "	$\frac{3}{8}$ -24	1 $\frac{5}{8}$ "	2 $\frac{1}{2}$ "	.85



Long Threaded Taper-Hole Arbor

The long taper allows the use of two or more wheels at the same time. Attaches to standard diameter motor shafts. Available in Right or Left hand threads.

Arbor Part No.	Shank Dia.	Thread Size	Length	Overall Length	Price Each
112	$\frac{3}{8}$ "	18-Thds.	2 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	\$.95
114	$\frac{1}{2}$ "	18-Thds.	3 $\frac{1}{2}$ "	5"	1.20
115	$\frac{5}{8}$ "	18-Thds.	3 $\frac{1}{2}$ "	5"	1.20



Sanding Disc

8" sanding disc of cast aluminum thick enough to prevent warping; light enough to be practical even with small motors.

No. 370 $\frac{1}{2}$ Diameter 8" Hole $\frac{1}{2}$ "	\$3.20
No. 370 $\frac{3}{8}$ Diameter 8" Hole $\frac{5}{8}$ "	3.20
Abrasive disc, all purpose medium grit.....	.25
Abrasive disc, all purpose coarse grit.....	.25



Sanding Drums

Made of aluminum with rubber sleeve that expands when tightened to hold abrasive sleeve firmly in position. Very practical for light motors used in home shops. Can be attached with arbor to motor shaft.

Diameter 2 $\frac{3}{8}$ " long 1"	\$1.25
Diameter 2 $\frac{3}{8}$ " long 2"	1.50
Sleeves 2"	.20
Sleeves 1"	.15
Sleeves in fine, med. coarse for wood and metal, please specify which is needed.	



Hacksaw Frame

The Hack Saw Frame No. 1027 has a fine quality frame. The back reinforcement extends down the entire length of the molded black pistol grip handle, making it practically unbreakable. Blade can be faced in four directions. Finely polished and nickel plated. Equipped with one 10" blade.

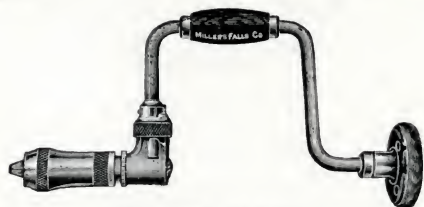
Capacity	Depth	Stock	Price Each
8 to 12"	3 1/4"	3/16 x 11/16"	\$2.20

Hacksaw Blades

For general all around work in the shop, the less expensive Tungsten steel blades are perfect. For sawing hardened actions, tough tool steels, chrome nickel, high speed and other alloy steels and monel metal etc., the High Speed blades have been developed, they cut faster and last longer than the Tungsten blades.

Hacksaw hand blades are supplied in .025" thickness and 3/8" width, and with 18, 24 or 32 teeth per inch. Please specify teeth per inch when ordering.

Tungsten blades, 10" long - per 10 blades....	\$1.00
Tungsten blades, 12" long - per 10 blades....	1.25
Blu-Mol High Speed blades, 10" long per 10 blades	3.50
Blu-Mol High Speed blades, 12" long per 10 blades	4.00



Ratchet Braces

This Brace will meet every boring requirement for square shank bits in a gunsmith shop. It has boxed ratchet mechanism, with ring shift. Barber chuck with self-opening, forged steel alligator jaws. Ball bearing, steel clad head. Handle has inserted metal ring. Handle and head are of nicely finished ebonized hardwood. All exposed metal parts polished, nickel plated and buffed.

No. 1321—Ratchet Brace 12" sweep, each	\$7.75
No. 1322—Ratchet Brace 10" sweep, each	7.00



Brass Hammer

Use a brass hammer when hammering out a dent in a shotgun barrel or in removing sight blades, etc. where a soft hammer has to be used to prevent damages on finished parts. The brass heads and steel shanks are both nicely polished.
Weight 4 oz. Head 9/16" x 1 1/4".....Price @ \$1.40
Weight 8 oz. Head 3/4" x 2 1/4".....Price @ 1.70

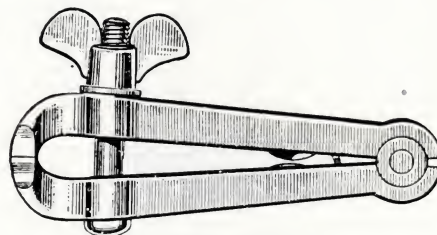


Spring Winder

Adopted by the leading manufacturers, machinists and gunsmiths as standard for precision winding of extension, compression and torsion springs. Also adapted to wind taper, double taper, and left hand springs. Makes springs any length, diameter or pitch from any gauge wire. No wire wasted; winds to last inch. Can be used in connection with vise, lathe or drill press.

No. 1 Capacity 0 thru 3/32" wire, each.....	\$2.00
No. 2 Capacity 0 thru 3/16" wire, each.....	3.50

Directions on how to use are supplied with each winder.



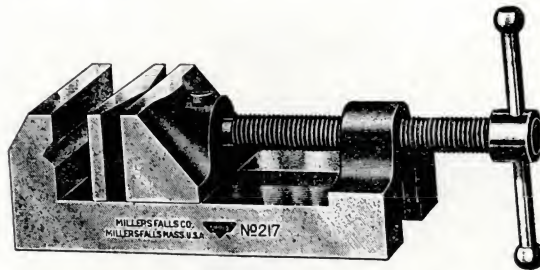
Hand Vise

Forged steel jaws and handles. Jaw faces checkered to give good grip. Tightens by means of heavy steel thumb nut and screw bolt. Heavy spring opens jaws as nut is loosened.

They are very handy in the shop, where parts have to be clamped together for drilling, soldering and welding.

Length 5", jaws 1 1/2" wide, open up 1 1/4".

Price, only \$3.00



Bench Vise

A well made, nicely finished vise for use on a drill press and on the bench, when laying out work and mounting sights. The V slot will keep the center of a—straight or tapered barrel—parallel to the surface plate, using two of these vises, makes mounting of telescopes and aligning of sights easy.

Steel screw provided for fastening to drill press table. Jaws 2 3/4" wide, open to 2 5/8".

Price complete \$6.80



Face Shield

Protect your eyes against flying steel chips, grinding wheel particles and dust when sanding, grinding and polishing.

Light, cool and comfortable, yet sturdy built. Sweatband as window, button on are easily removed. Friction joints are positive in action, allowing the window to be instantly placed in the on and off guard position.

Use a face shield before an accident happens to your eyesight and stops your work. It's well worth to pay the low price for safety, comfort and uninterrupted production.

Price of face-shield with 5" x 11½" cellulose acetate window, only \$3.00



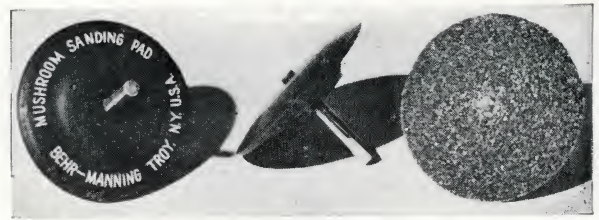
Palma Compound

Palma Compound has been made for particular sportsmen, shooters, collectors, hobbyists and tool makers who wanted for their fine tools, firearms, and equipment a better cleaning compound, a better lubricant, and a better rust inhibitor and preservative in one convenient combination, superior to the conventional cutback compounds on the market.

Palma Compound is a homogeneous combination of uniform, pure and costly ingredients that assure the expected performance at an inevitable saving to the user. Uncut by water or bulky volatiles, its manufacturing cost is far above normal, but its concentrated nature assures the user economy in getting results.

A few drops will penetrate, remove rust, clean, lubricate and preserve.

2 oz. bottle only \$.50



Mushroom Sanding Pad

The Mushroom Sanding Pad is designed for shaping, finishing and polishing of dies, moulds, tools, gunparts and intricate machine tools, with difficult to reach areas, especially those with concave sections.

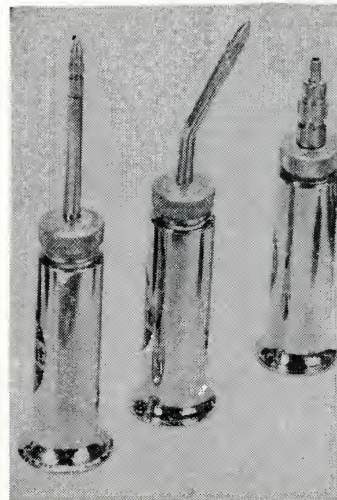
The sanding discs, 3" wide, ¼" hole, are made of metalite cloth moulded to fit the Mushroom Sanding Pad.

Price of sanding pad including 4 discs..... \$2.00

Mushroom Sanding discs are available in grits from 100 to 320 and following listed grits are carried in stock #100, 150, 220 and 320.

Price per 10 discs \$.75

Leakproof Valvespout Oiler



A leakproof and foolproof oiler designed for precise pin point lubrication of hard to reach parts. Made of heavily plated solid brass. Tip of spout has patent knurled valve which, when turned right or left, opens or hermetically seals the spout. No cap to lose - no part to get out of order. Will fit in any kit, tool or tackle

box. Guaranteed leakproof. Straight or bend spout. Price each \$1.00



Screws and Screw-Blanks

Screws for sights and telescope mounts should be made from a good grade tool steel. The listed screws are made from drill rod and the screw-blanks from a tough tool steel. The guard screw blanks are suitable for Enfield, Springfield and Mauser rifles.

Screws, 6-48W, 3/16-36W and 3/16-40W are about ½" long and are 2 for..... \$.25

Screw blanks (not threaded) each..... .30



Imported French Walnut Blanks

Selected dense grained, solid wood, well seasoned and kilndried to insure close inletting, to avoid warping and to finish beautifully.

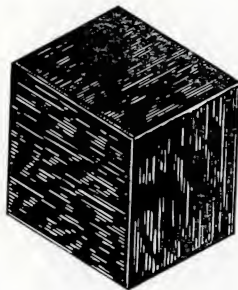
Blanks are assorted and priced according to the—even or contrast—color of wood, characteristics of grain—fiddleback, burl, etc. There are no set rules in pricing blanks as in the final decision, the man's likes or dislikes is the governing factor. But regardless of price you get a close grained well seasoned blank.

Rifle blanks are about 35" long, $2\frac{1}{4}$ " to $2\frac{3}{8}$ " thick and 7" at the butt. There is plenty wood for length, cast-off with cheek-piece and Monte Carlo comb.

Prices are \$10.-, \$12.50, \$15.- and up.

Shotgun blanks are about 18" long, $2\frac{1}{8}$ " thick and $5\frac{1}{4}$ " at the butt.

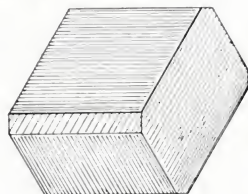
Prices are \$10.-, \$12.50 and \$15.- each.



Ebony

For forend tips, genuine ebony is the favorite material of the American rifleman. As it is impossible to obtain well seasoned ebony and kiln drying is not advisable, ebony blocks are supplied coated with parafin or shellac to avoid checks and cracks.

Size approx. 2" x 2" x 2"	\$.90
2" x 2" x 3"	1.25
2" x 2" x 4"	1.75



Ivory

To those preferring light colored wood in their gunstocks and to match the color, genuine elephant tusk ivory is available.

Size approx. $1\frac{1}{4}$ " x $1\frac{1}{4}$ " x $1\frac{1}{4}$ " \$3.75

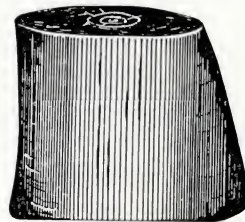


Ivory and Buffalo Horn

Genuine ivory and buffalo horn suitable for butt plates on rifle and shotgun stocks.

Ivory about 6" long, $1\frac{1}{4}$ " wide, $\frac{1}{4}$ " thick, ea. \$3.50

Buffalo horn over $\frac{1}{4}$ " thick irregular in shape each \$1.50

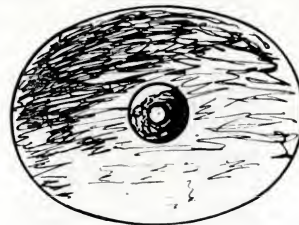


Buffalo Horn

Black buffalo horn for forend tips has long been preferred by European gunmakers and most of their better rifles have a buffalo horn tip.

Sizes of horn blocks vary much and it is impossible to give approx. dimensions, but each block is large enough to make a forend tip for a sporter rifle.

Price per block \$1.75



Pistol Grip Caps

Pistol grip caps made of genuine Pearl. Ivory and Buffalo Horn to match decorative work and color of gunstock are available.

Size approx 2" long, $1\frac{3}{8}$ " wide and $\frac{5}{16}$ " thick

Buffalo horn cap \$1.20

Pearl or Ivory cap 1.50

Niedner Steel Butt Plates

The well known Niedner butt plates are in plain and checkered obtainable.

Size approx. $5\frac{1}{8}$ " long, $1\frac{1}{2}$ " wide.

Price—plain steel buttplate \$1.00

checkered steel buttplate 2.00

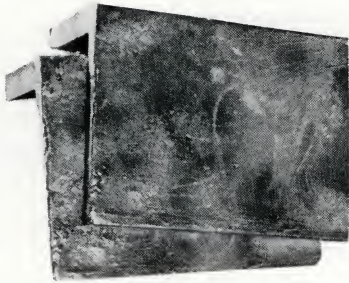
Inlay Materials

For initials, fancy insignias and other decorative inlays on gunstocks and pistol grips, genuine pearl and ivory chips and German silver is being supplied.

Genuine pearl chips $\frac{1}{4}$ lb. \$.50

Genuine ivory chips $\frac{1}{4}$ lb.35

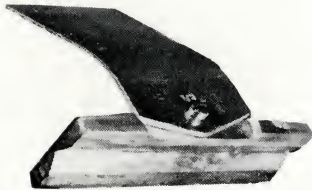
German silver, 18 gauge 3" x 6"ea. .40



Lead Vise Jaws

For holding sights, screws, polished parts, actions, etc., without damaging them always use lead vise jaws. They are so important that one should have a pair for each vise. They are supplied with the flat top, which has to be bent down to the form of the individual vise. The Lead vise jaws are made in any width from 2½ to 4 inches.

Price per pair (2 jaws).....\$1.60



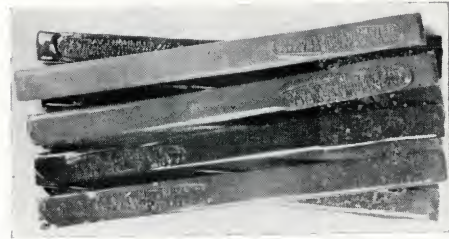
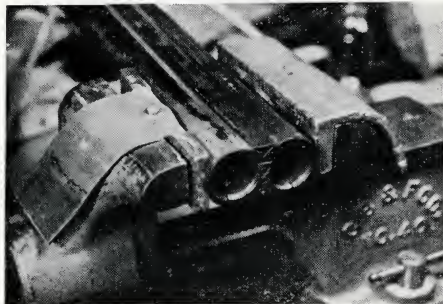
This self adjusting vise jaw has been designed for the purpose of holding tapered barrels, fore-arms, etc., in such a way as to prevent them from sinking down when pressure is applied through filing or other operations.

This self adjusting vise jaw is made of bronze, is 4 inches wide and has a V groove through its width for a better hold on round stock. Attached to the jaw is a holder for keeping the jaw in its place, this holder should be bent down to the shape of one's vise.

Self adjusting vise jaw.....each \$1.50

Self adjusting vise jaw with
1 lead jaw.....each 2.25

Self adjusting vise jaw with
with 2 lead jaws.....each 3.00



Gunsmith Shellac Sticks

A new, carefully prepared shellac-stick for the gunsmith to fill holes, cracks and scratches in shotgun and rifle stocks Quickly and Permanently.

The color scheme . . . 12 different colors . . . were specially selected to match woods mostly in use for gunstocks. These colors were matched to the natural shade of oil-finished (polished) stock wood. The colors are light and dark American walnut, light and dark French walnut, light and dark Circassian walnut, Myrtle, Maple, Ebony, Ivory and light and dark Transparent.

With an assortment of 12 different colored shellac sticks a gunsmith is prepared to take care of all repairs requiring shellac sticks.

Easy to use; Heat over flame a narrow, flexible putty knife or similar steel blade, when sufficiently hot . . . not too hot . . . apply it to the shellac until enough adheres to fill the hole, scrape off the surplus and polish.

The stick measures 7"x½"x¾".

Price per assortment.....\$3.00

Price per stick.....\$.40



Swedish Solid Steel Anvil

Manufactured from one solid block of Swedish charcoal steel, no faceplate to come loose, no unnecessary weight either at the bottom or on the waist.

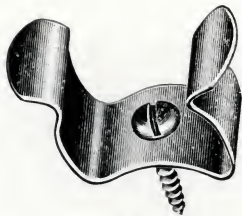
Perfect in shape with a large working surface, it stands firmly.

They come in weights up to several hundred pounds, as each one differs in weight from the other—of similar dimensions—below listed weights and prices are approximate.

No vise can take the place of an anvil.

Let me know of your requirements and I shall gladly quote on them.

10 lbs.	\$10.00
20 lbs.	15.50
30 lbs.	18.50
50 lbs.	25.00

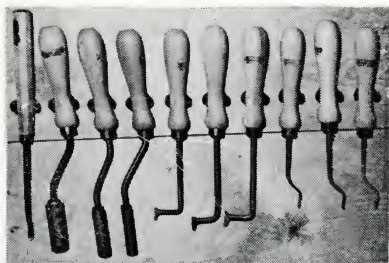


Finger Tip Clips

Designed for holding files, chisels, screwdrivers, bottoming and checkering tools, barrel rasps, etc. These clips are made of finest spring steel, are nickel plated and burnished. They can be mounted on any woodwork and the patented curved back permits them to be adjusted instantly by tightening the screw. Get a few dozen clips and free your bench from all tools not in actual use. You'll have a place for each tool, protect them against damage and have them at arm's reach.

The clips are made in 3 sizes.

No. 1 for handles from 1/4 to 1/2" diam.	
Price per doz.....	\$.30
No. 2 for handles from 1/2 to 7/8" diam.	
Price per doz.....	.35
No. 3 for handles from 7/8 to 1 1/4" diam.	
Price per doz.....	.45



Sight Reamer

A handy Sight Reamer of superior quality for the Rifle Shooter. This Reamer is made of tungsten steel, fine cut—20 teeth—insuring smooth reaming and perfect round hole in steel and synthetic materials. Reamer holder with chuck, made of brass, gives positive hold with reamer extending up to 1 1/2" for front sight apertures covered by hood.

For full protection of the Reamer, insert the shank from rear end of holder.

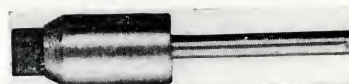
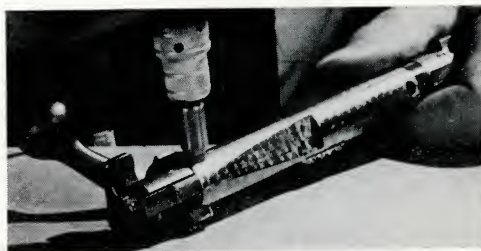
Price\$1.35



Polishing Stick

This both-side workable polishing stick, is covered on one side with abrasive charged rubber—same good quality as the No. 1 draw polisher—for polishing steel and other hard metals. The other side is covered with felt for fine polishing and lapping of hard and soft metals.

Price per stick.....\$.30



Engine Turning Tool

A new gadget, which takes the mystery out of engine turning and enables the professional and amateur gunsmith to put the same fancy polished design of high-priced guns on his customer's or own pet gun.

The tool consists of a steel holder with a 1/8" shank and an abrasive charged rubber tip. The specially made abrasive tip gives an even impression on steel. This tip simplifies the work and eliminates the danger of cutting deep rings.

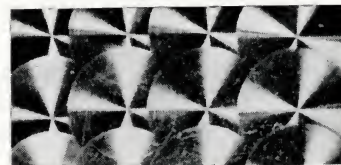
The 1/8" shank permits the use of Handee-Tool, Dumore and any other small chucked hand motor or drill press, as the revolving power. To get an even impression the tool has to be put down and lifted up straight.

At the right is the picture of an enlarged pattern as it should be made to insure the best effect.

It's a tool of equal usefulness to the professional and amateur gunsmith.

Engine Turning Tool with two extra rubber tips for engine turning, two felt tips for polishing, only 75¢.

Extra rubber tips, 2 for 10¢ Felt tips, 2 for 5¢



Primer Pocket Brushes

These are practical brushes for cleaning primer pockets prior to the insertion of a new primer. Besides for this special purpose, there are many other cleaning jobs, which can be done better and faster with the help of one of these brushes. They come in steel and in brass; shank is 3/32" thick, fitting into chuck of Handee's, etc.

Price per brush.....\$.25

Drill Rods

All material is of tool steel quality. These drill rods have an unusually fine finish, they are with exception of the very fine sizes, ground after drawing and then finally brought to a high polish. This method removes surface decarbonization and secures absolute roundness and accuracy, a representative of the best in cold drawn and finished tool steel.

Square and flat drill rods have a lime drawn finish.

Sold only in 3 ft. lengths, prices are per 3 ft. length.



Round—3 ft. lengths

Size	Each
.024"	\$.10
.031" (1/32") .....	.15
.039" .....	.15
.046" (3/64") .....	.15
.055" .....	.15
.062" (1/16") .....	.15
.070" .....	.15
.078" (5/64") .....	.20
.086" .....	.20
.093" (3/32") .....	.25
.101" .....	.25
.109" (7/64") .....	.25
.116" .....	.25
.125" (1/8") .....	.30
.134" .....	.30
.140" (9/64") .....	.35
.148" .....	.35
.156" (5/32") .....	.35
.164" .....	.40
.171" (11/64") .....	.40
.180" .....	.40
.187" (3/16") .....	.45
.194" .....	.45
.203" (13/64") .....	.50
.209" .....	.50
.218" (7/32") .....	.55
.221" .....	.60
.228" .....	.60
.234" (15/64") .....	.65
.242" .....	.70
.250" (1/4") .....	.75
.257" .....	.75
.265" (17/64") .....	.75
.275" .....	.80
.281" (9/32") .....	.85
.290" .....	.85
.296" (19/64") .....	.90
.302" .....	.95
.312" (5/16")	1.00
.328" (21/64")	1.10
.343" (11/32")	1.20
.359" (23/64")	1.30
.375" (3/8")	1.35
.390" (25/64")	1.40
.406" (13/32")	1.60
.421" (27/64")	1.75
.437" (7/16")	1.80
.453" (29/64")	1.95
.468" (15/32")	2.10
.484" (31/64")	2.25
.500" (1/2")	2.50



Square—3 ft. lengths

1/16"	\$.25
3/32" .....	.35
7/64" .....	.45
1/8" .....	.50
5/32" .....	.55
3/16" .....	.65
7/32" .....	.75
1/4" .....	.95
9/32"	1.15
5/16"	1.30
11/32"	1.50
3/8"	1.75
13/32"	2.15
7/16"	2.50
1/2"	3.10



Flat—3 ft. lengths

1/16" x 1/8"	\$.50
x 1/4" .....	.65
x 3/8" .....	.95
x 1/2"	1.25
3/32" x 1/4" .....	.85
x 3/8"	1.20
x 1/2"	1.65
1/8" x 1/4" .....	.75
x 3/8"	1.20
x 1/2"	1.50
x 3/4"	2.15
3/16" x 1/4" .....	.75
x 3/8"	1.00
x 1/2"	1.30
x 3/4"	1.95
1/4" x 3/8"	1.25
x 1/2"	1.50
x 3/4"	2.30
x 1"	2.90
5/16" x 3/8"	1.45
x 1/2"	2.00
x 3/4"	2.75
x 1"	3.75

Swedish Cold Rolled Annealed Spring Steel



Swedish Cold Rolled Annealed Spring Steel. This highest quality steel, is the result of pure Swedish ores plus unusual care in manufactures, uniform in analysis, it is stronger and tougher than competitive grades. Considered as the best suited one for V and flat springs, for revolvers, rifles, shotguns and wherever a dependable spring is required. It will harden to any degree needed.

Harden: Heat uniformly to 1475° — 1500° F. and quench in oil.

Temper: Draw from 700° F. — 900° F. according to hardness desired. Do not overheat as it will produce a coarse structure due to burning.

Only those sizes as listed below are available. Sold in 1 foot to 3 feet lengths.

1/32" x 1/2"	per foot \$.15	3/32" x 3/4"	per foot \$.25
3/64" x 1/2"	“ “ .15	1/8" x 3/4"	“ “ .35
1/16" x 1/2"	“ “ .20	3/16" x 3/4"	“ “ .45

Heat Treating

The safest way to heat treat spring and tool steel is in an electric furnace equipped with a pyrometer. For those who have no heat-treating furnace available, following chart of heat colors will be of great help.

Temper Colors: Yellowish brown 490° F; purple 500° F; violet 545° F; pale blue 590° F; black red in dull light or darkness 800° F.

Heat Colors: Very dark red 1000° F, dark red 1250° F, cherry red 1400° F, light cherry red 1550° F, orange red 2000° F.



Books

- | | | | | | |
|---|--------|---|--------|--|--------|
| Advanced Gunsmith,
W. F. Vickery | \$4.00 | Military & Sporting Rifle
Shooting, E. C. Crossman | \$4.50 | Muzzle Loading Rifle, Then
and Now, W. McCline | \$7.00 |
| Modern Gunsmithing,
525 Pages. 205 Illustrations.
Clyde Baker | 5.00 | Hatcher's Note Book,
J. S. Hatcher | 5.00 | Book of the Springfield,
E. C. Crossman | 6.00 |
| The Modern Gunsmith, 2 Vols.,
J. V. Howe | 15.00 | Book of the Garand,
J. Hatcher | 6.00 | Small Arms Design and Ballistics,
Vol. I. Design, Construction
and Operation | 6.00 |
| Gunsmithing Simplified,
H. E. MacFarland | 6.95 | American Gunmakers,
Satterlee-Gluckman | 5.00 | Vol. II. Interior and Exterior
Ballistics | 6.00 |
| Gunsmithing,
Roe F. Dunlap | 7.50 | The Sharp Rifle,
Smith | 3.00 | Townsend Whelen
Telescope Rifle Sights,
T. Whelen | 2.00 |
| Professional Gunsmithing,
Walter Howe | 6.00 | Gun Care and Repair,
Chapel | 3.75 | The Hunting Rifle,
Townsend Whelen | 5.00 |
| Elementary Gunsmithing,
F. D. Frazer | 2.00 | The N.R.A. Book of Small Arms,
Vol. I. Pistols and Revolvers.
638 Pages. 845 Illustrations. | 10.00 | Hunting Big Game,
2 Vols. 400 Pages each.
Townsend Whelen | 9.50 |
| The Amateur Gun Craftsman,
J. V. Howe | 4.00 | Vol. II. Rifles.
546 Pages. Illustrated | 10.00 | Wilderness Hunting,
T. Whelen | 3.75 |
| Inletting of Gunstock Blanks,
A. Linden | 2.60 | Set of both Volumes | 17.50 | Twenty-Two Caliper Varmint
Rifles, Charles S. Landis... | 5.00 |
| Shaping the Inletted Blank,
A. Linden | 2.60 | W. H. B. Smith
A Basic Manual of Military
Small Arms,
W. H. B. Smith | 6.00 | Shots Fired in Anger,
John B. George | 4.00 |
| Finishing the Gunstock,
A. Linden | 2.60 | Mannlicher Rifles and Pistols,
W. H. B. Smith | 5.00 | Muzzle Flashes,
E. C. Lenz | 15.00 |
| Gunsmith's Manual,
Steele-Harrison | 4.00 | Mauser Rifles and Pistols,
W. H. B. Smith | 5.00 | Rifleman's Progress,
E. C. Lenz | 8.00 |
| Firearms Bluing and Browning,
R. H. Angier | 2.50 | Walther Pistols,
W. H. B. Smith | 2.00 | The Rifle,
S. R. Truesell | 5.00 |
| Complete Guide to Handloading,
702 Pages. The one complete
book for Beginner, Expert
and Technician.
Philip B. Sharpe | 10.00 | The Whitney Firearms,
E. C. Fuller | 7.00 | The Muzzle Loading Cap Lock
Rifle, N. H. Roberts | 7.50 |
| Handloader's Manual,
E. Naramore | 3.50 | Our Rifles,
Sawyer | 7.50 | Custom Build Rifles,
Dick Simmons | 3.85 |
| The Bullet's Flight,
Dr. Mann | 6.00 | Smith & Wesson Handguns,
McHenry-Roper | 7.50 | The Rifle Book,
Jack O'Connor | 5.95 |
| Ammunition,
Johnson-Haven | 5.00 | Textbook on Automatic Pistols,
Wilson | 6.00 | Experiments of a Handgunner,
Walter F. Roper | 4.50 |
| The Rifle in America,
900 Pages. 650 Illustrations.
Philip B. Sharpe | 15.00 | Handcannon to Automatics,
Logan | 5.00 | Cartridge Identification,
Vol. I. Centerfire Metric
Pistol and Revolvers.
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Marksmanship, Lee | 2.00 | Ordnance Went Up Front,
Dunlap | 4.00 |
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fications, J. C. Hatcher | 7.50 | Gun Collecting,
Chapel | 3.00 | A Rifleman Went to War,
H. W. McBride | 3.50 |
| Textbook of Pistols and Re-
volvers, J. C. Hatcher | 4.25 | Gun Collectors Handbook of
Values, Ch. E. Chapel | 6.75 | African Rifles and Cartridges,
John Taylor | 6.00 |
| | | Common Sense Shotgun Shooting,
Etchen | 6.00 | How to Shoot a Rifle | 1.75 |
| | | Firearms of the Confederacy,
Fuller-Stewart | 12.50 | | |
| | | Gunnerman's Gold,
Horatio Bigelow | 7.50 | | |

Drill Rods

All material is of tool steel quality. These drill rods have an unusually fine finish, they are with exception of the very fine sizes, ground after drawing and then finally brought to a high polish. This method removes surface decarbonization and secures absolute roundness and accuracy, a representative of the best in cold drawn and finished tool steel.

Square and flat drill rods have a lime drawn finish.

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Round—3 ft. lengths

Size	Each
.024"	\$.10
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Square—3 ft. lengths

1/16"	\$.25
3/32"35
7/64"45
1/8"50
5/32"55
3/16"65
7/32"75
1/4"95
9/32"	1.15
5/16"	1.30
11/32"	1.50
3/8"	1.75
13/32"	2.15
7/16"	2.50
1/2"	3.10



Flat—3 ft. lengths

1/16" x 1/8"	\$.50
x 1/4" .....	.65
x 3/8" .....	.95
x 1/2"	1.25
3/32" x 1/4" .....	.85
x 3/8"	1.20
x 1/2"	1.65
1/8" x 1/4" .....	.75
x 3/8"	1.20
x 1/2"	1.50
x 3/4"	2.15
3/16" x 1/4" .....	.75
x 3/8"	1.00
x 1/2"	1.30
x 3/4"	1.95
1/4" x 3/8"	1.25
x 1/2"	1.50
x 3/4"	2.30
x 1"	2.90
5/16" x 3/8"	1.45
x 1/2"	2.00
x 3/4"	2.75
x 1"	3.75

Swedish Cold Rolled Annealed Spring Steel



Swedish Cold Rolled Annealed Spring Steel. This highest quality steel, is the result of pure Swedish ores plus unusual care in manufactures, uniform in analysis, it is stronger and tougher than competitive grades. Considered as the best suited one for V and flat springs, for revolvers, rifles, shotguns and wherever a dependable spring is required. It will harden to any degree needed.

Harden: Heat uniformly to 1475° — 1500° F. and quench in oil.

Temper: Draw from 700° F. — 900° F. according to hardness desired. Do not overheat as it will produce a coarse structure due to burning.

Only those sizes as listed below are available. Sold in 1 foot to 3 feet lengths.

1/32" x 1/2"	per foot \$.15	3/32" x 3/4"	per foot \$.25
3/64" x 1/2"	" " .15	1/8" x 3/4"	" " .35
1/16" x 1/2"	" " .20	3/16" x 3/4"	" " .45

Heat Treating

The safest way to heat treat spring and tool steel is in an electric furnace equipped with a pyrometer. For those who have no heat-treating furnace available, following chart of heat colors will be of great help.

Temper Colors: Yellowish brown 490° F; purple 500° F; violet 545° F; pale blue 590° F; black red in dull light or darkness 800° F.

Heat Colors: Very dark red 1000° F, dark red 1250° F, cherry red 1400° F, light cherry red 1550° F, orange red 2000° F.

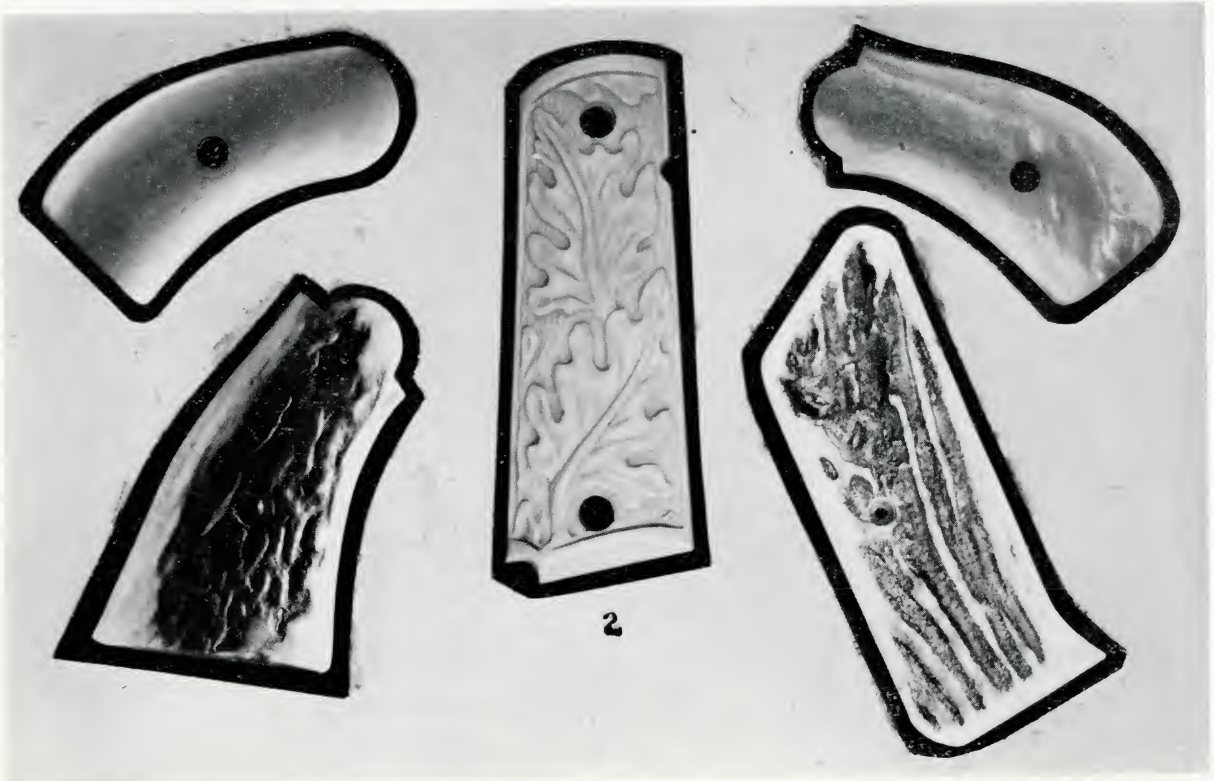


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- | | | |
|--|--|---|
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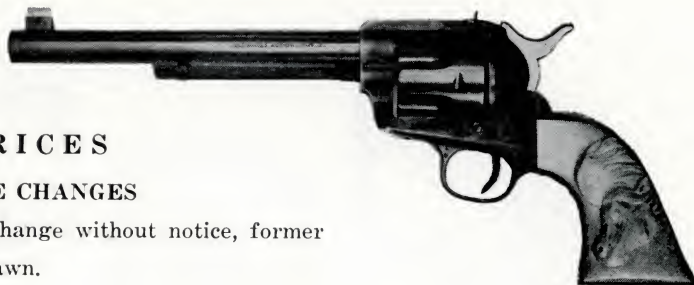


Genuine Pearl, Ivory and Stag
Revolver and Pistol Grips
Plain and Hand Carved









PRICES

PRICE CHANGES

Prices are subject to change without notice, former quotations are withdrawn.

Colt:

		Pearl	Ivory	Stag
Bisley.....	per pair	\$.....	\$17.00	\$9.00
Single Action Army.....	" "	16.00	16.00	7.00
New Service.....	" "	15.00	15.00	6.75
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Police Positive New Model.....	" "	7.75	7.75	5.25
Bankers or Detective Special.....	" "	7.75	7.75	5.25
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Pocket Positive.....	" "	4.00	4.00	3.25
Auto. .22 Woodsman, Old Model.....	" "	15.00	15.00	6.25
" .45 Government.....	" "	15.00	15.00	6.25
" .38 Super.....	" "	15.00	15.00	6.25
" .22 Ace.....	" "	15.00	15.00	6.25
" .32 or .380 Pocket.....	" "	6.50	6.50	4.00
" .25 Pocket.....	" "	4.00	4.00	3.25

No grips for New Woodsman.

Smith & Wessen

Magnum, 1908 or 1905 Frame, New K .22 K .38.....	" "	.....	15.50	7.00
Regulation Police.....	" "	10.00	10.00	6.00
.44, .45, Model 1908, 1917.....	" "	9.00	9.00	6.00
M. & P. Square Butt, Old K .22 K .38.....	" "	8.00	8.00	5.50
Model 1902 Round Butt.....	" "	7.00	7.00	4.50
.32 H.E., .38 T.B.....	" "	4.00	4.00	3.25
.32 N.D., .38 N.D.....	" "	4.00	4.00	3.25

High Standard:

Model B, C, Short Grip.....	" "	.....	16.00	7.00
Model A, D, HDM Long Grip.....	" "	22.00	9.50

Luger:

Frame required for fitting.....	" "	27.00	14.00
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Remington:

Derringer.....	" "	4.00	4.00	3.25
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On all other grips, prices quoted on request, enclose a tracing of one grip with your inquiry.

Above Prices are for Plain Grips only, Carving extra.

Only selected Genuine raw materials are being used.

All grips are made and fitted to standard frames. For proper fitting on altered frames, send the frame only.

Prices quoted on carvings are for carving of one grip only, with the exception of Oak Leaf, Scroll and Checkering which includes both grips. Regularly the right grip is being carved, if otherwise desired specify it on your order.

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FRANK MITTERMEIER

Gunsmith Supplies
3577 E. TREMONT AVENUE
NEW YORK 61, N. Y.

Sole Importer
of
David Strqsmann's
"Dastra" & "Holzschraube"
Wood Carving
and Sculptures Tools

December, 1951

Dear Customer:

- Catalog 1952 -

It is a great pleasure to be able to present you this catalog and wish to thank you for your orders, which made it possible for me to print and forward this catalog.

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Tools are of top quality materials and workmanship and should a tool be found defective, it will be replaced free of charge.

Tools and supplies are carefully packed and shipped in good order. All shipments are insured and any claim for loss or damage in transit should be made against the transit company.

Terms are: 25% with order, balance C.O.D. Where credit has been established with me, all payments for goods are due 30 days from date of invoice.

All shipments are F.O.B. New York, N. Y. unless otherwise specified.

Prices are subject to change without notice, former quotations are withdrawn.

Hoping, that, in the coming years, you will have many occasions to use and order from this catalog. I am

Cordially yours,

Frank Mittermeier

Confidential

Dealer's and Professional Gunsmith's Discounts

Effective December 1, 1951

All previous quoted discounts are withdrawn

AM
®

Abrasives:		Files, Rasps (Rotary)	10%
Brightboy Wheels, Tablets, Sticks.....	20%	Finger Tip Clips	20%
Cloths, Papers and Powders	20%	Flexible Shafts	Net
Draw Polishers	20%	German Carving Tools	20%
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Felt: Sheets, Wheels	20%	Silver Solder, Fluxes	10%
Files, Rasps, Riffles (Hand)	20%	Soldering Blocks	10%

No discounts on orders amounting to less than \$1.50

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Terms: Cash or 25% with Order Balance C.O.D.

When Credit Established, 2/10/Net 30

Shipments F.O.B. New York, N. Y.

FRANK MITTERMEIER

Gunsmith Supplies

3577 EAST TREMONT AVENUE

NEW YORK 61, N. Y.

THE
HISTORY OF THE
CITY OF BOSTON
FROM 1630 TO 1880
BY
JOHN H. COVINGTON

1880

Year	Population	Area	Water	Land	Buildings	Factories	Ships	Commerce	Education	Religion	Amusement	Transportation	Health	Crime	War	Peace	Notes
1630	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1640	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
1650	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
1660	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
1670	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
1680	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600
1690	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700
1700	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
1710	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
1720	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1730	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
1740	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
1750	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300
1760	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
1770	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
1780	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
1790	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
1810	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
1820	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
1830	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
1840	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
1850	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300
1860	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
1870	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
1880	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600

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